

SECTION IV ENVIRONMENTAL CONSEQUENCES

4.1 LAND USE AND SOCIO-ECONOMIC IMPACTS

The following section addresses the anticipated land use and socioeconomic consequences of each of the STH 26 alternatives. Table 4.1 provides a summary of land use and socioeconomic impacts.

| TABLE 4.1 SUMMARY OF LAND USE AND SOCIO-ECONOMIC IMPACTS | | | | | | | | | | | | | |
|--|---------------|--------|--------|-----------------|-------|-------|-------|--------|--------|-------|---------------|--------|--------|
| | SOUTH SEGMENT | | | CENTRAL SEGMENT | | | | | | | NORTH SEGMENT | | |
| | NO BUILD | S2 | S3 | NO BUILD | C1 | C2 | C2(a) | C2(b) | C3 | C4 | NO BUILD | N1 | N2 |
| Consistency with Local and County Land Use Plans | ⊙ | ⊙ | ⊙ | ● | ● | ○ | ○ | ○ | ⊙ | ● | ● | ○ | ● |
| Significant Site-Specific Institutional Impacts | ● | ○ | ○ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ● | ○ | ● | ○ | ○ |
| Agricultural Impacts | ○ | ⊙ | ⊙ | ○ | ● | ○ | ○ | ○ | ○ | ● | ○ | ⊙ | ⊙ |
| Community Access | ⊙ | ○ | ○ | ○ | ⊙ | ○ | ○ | ○ | ○ | ● | ⊙ | ○ | ● |
| Economic Impact on Existing Businesses | ○ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ● | ⊙ | ⊙ | ⊙ |
| Servicing of Industrial Sites | ⊙ | ○ | ○ | ● | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ● | ● | ○ | ● |
| Residential Neighborhood Impacts | ● | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ |
| Residential / Business Relocations | 0 / 0 | 47 / 2 | 11 / 2 | 0 / 0 | 9 / 2 | 5 / 3 | 5 / 4 | 10 / 5 | 13 / 1 | 6 / 0 | 0 / 0 | 19 / 7 | 24 / 6 |
| Environmental Justice | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Visual Resources Views of Road / From Road | ○/⊙ | ●/⊙ | ⊙/○ | ○/⊙ | ⊙/○ | ⊙/○ | ⊙/○ | ⊙/○ | ⊙/⊙ | ⊙/○ | ○/⊙ | ⊙/○ | ●/⊙ |

Note: Symbols represent a relative scale from least beneficial/most negative effect to most beneficial/least negative effect. Each alternative is classified relative to the other alternative within the same segment of the corridor.

Legend: ● = Least beneficial/Most negative; ⊙ = Moderate Impact; ○ = Most beneficial/least negative

Methodology – Panel of Experts

The methodology for evaluating environmental consequences related to land use and socioeconomic impacts has involved utilization of a “Panel of Experts.” This approach to evaluating the land use impacts of transportation projects is recommended in the WisDOT guideline document entitled *Land Use in Environmental Documents - Indirect and Cumulative Effects Analysis for Project-Induced Land Development – Technical Reference Guidance Document* (WisDOT, 1996).

The Panel of Experts included county and municipal planners and engineers, University of Wisconsin Cooperative Extension Service staff, local economic development professionals, and individuals representing the farming community, real estate developers, and environmental organizations. The process has incorporated a “Modified Delphi Technique” using a qualitative ranking of the impacts of alternatives.

The Panel of Experts has been used to identify some of the general impacts that could be expected from the highway alternatives. The Panel of Experts was asked to rank each individual alternative with respect to a number of socioeconomic and land use factors. The rankings were based on a range of 1 to 5 with 1 being the most negative/least beneficial and 5 being the most beneficial/least negative. The scores were totaled by the consultant team and translated into a set of general findings.

The Panel of Experts was a diverse group representing a broad range of interest groups and geographic areas. There was not a consensus on the impacts of each alternative. Some Panel of Experts members declined to rank individual alternatives due to unfamiliarity with the specific conditions related to each potential route and each community.

There was, however, a consensus on some general findings and principals that should be used in the DEIS/EIS process. These key findings of the Panel of Experts are as follows:

1. Nearly all of the municipalities and counties within the STH 26 Study Area have adopted land use plans. While there are some inconsistencies between some of the locally-adopted plans, nearly all of the adopted land use plans discourage nonagricultural development in rural areas and encourage development, particularly commercial and industrial development, within delineated long-range urban service areas or planned community growth boundaries.

Note: All of the locally adopted plans utilize the concept of “long-range urban service areas”. The term “long-range urban service area” is used by the Wisconsin Department of Natural Resources and other state and local agencies to describe the area within which public sanitary sewer and public water supply are expected to be available and in which “urban” development is planned to occur. Urban service area boundaries have generally been delineated based the projected demand for land for development purposes. While each community may have utilized slightly different methodologies to determine the project growth rates and urban service area boundaries, the general approach throughout the study area has been to base projected population growth on the Wisconsin Department of Administration “Official Municipal Population Projections 1990 – 2015” with adjustments based on growth rates since 1990.

2. Highway alternatives within or near to the long-range urban service areas or planned community growth boundaries generally have less land use impact on agricultural land and provide better community access.
3. Interchanges and signalized intersections tend to attract commercial development. When such areas are located outside of long-range urban service areas or planned community growth boundaries, they tend to be inconsistent with local land use plans.
4. Alternatives with safe and efficient highway access to both existing and planned industrial sites and industrial or business parks are most effective in terms of providing economic benefits and relieving the existing corridors of truck traffic.
5. Alternatives that follow 40-acre boundaries other than road frontages tend to have less farm severance and farmstead impact than alternatives that traverse diagonally through agricultural districts or align with roads.

6. The through-town alternatives in Milton, Jefferson, and Watertown would require a substantial number of business relocations, which would have adverse economic and community impacts.
7. The through-town alternatives in Milton, Jefferson, and Watertown would tend to be disruptive to residential neighborhoods and create barriers to both pedestrian and traffic flow between residential neighborhoods and community activity areas such as downtowns and institutions such as schools, churches, and parks.
8. The location of highway corridors within or near existing residential neighborhoods would tend to create nuisances due to noise, visual impact, and light. These impacts would reduce the desirability of such neighborhoods and could impact property values.
9. In areas of proposed highway corridors, local and county plans that have not anticipated these roads may have to be revised.
10. The Panel of Experts did not identify particularly high indirect or cumulative impacts.

The following section incorporates both the findings of the Panel of Experts and the technical findings of the consultant team, as they relate to land use and socioeconomic impacts for each of the individual highway alternatives.

4.1.1 Consistency with Local and County Land Use Plans

Table 4.1.1 summarizes the land use plans for the various municipalities in the study area. In general, the bypass alternatives within or adjacent to long-range urban service areas tend to be the most consistent with local land use plans. These alternatives do not create new interchanges or major intersections in rural areas that are planned for long-range agricultural preservation. In addition, alternatives located closer to urban service areas generally provide the most convenient access to both existing and planned industries, businesses and services within the communities.

The bypass alternatives near urban service area boundaries are also generally more consistent with local land use planning than the through-town alternatives; they have less impact on existing residential neighborhoods and do not create pedestrian and other mobility or travel access “barriers” within the communities. The through-town alternatives generally require right-of-way widening that would cause business relocations and disrupt existing business districts. In some instances, the through-town alternatives would all pose a threat to historic structures or sites in the older areas of communities.

In all of the incorporated municipalities where bypasses or improvements are proposed, the improvements are more consistent with local plans than the No-Build Alternative. The existing STH 26 corridor alignment routes through-traffic, including truck traffic, through the central portions of Milton, Jefferson, and Watertown. This through-traffic and congestion is disruptive to pedestrian movements and cross-town circulation. Most of the incorporated communities in the STH 26 study area have incorporated STH 26 improvements into their local land use plans. Nearly all of the local plans within the study area call for regional highway improvements as a means of improving the local economies and providing better access to the Interstate Highways. The No-Build Alternative would fail to address issues related to both congestion and enhanced regional transportation facilities.

**TABLE 4.1.1
EXISTING PLANNING FRAMEWORK**

| Municipality | Current Land Use Plan | Zoning Ordinance |
|--------------------------|--|-------------------------|
| Rock County | Comprehensive Development Plan, in Progress | 1999 |
| City of Milton | City of Milton Comprehensive Master Plan, 1999 | 1976 - Revised 1998 |
| City of Edgerton | Revised Master Plan, 1995 | 1997 |
| City of Janesville | City of Janesville General Development Plan, 1989 | 1981 |
| Town of La Prairie | Plan in Progress | 1996 |
| Town of Lima | General Development Guide - 1975 | 1980 |
| Town of Milton | Town of Milton Land Use Plan, 1999 | 1979, Revised 1999 |
| Town of Rock | Plan in Progress | 1987 |
| Jefferson County | Jefferson County Agricultural Preservation and Land Use Plan, 1999 | 1975 |
| City of Fort Atkinson | Fort Atkinson Master Plan, 1997 | 1993 |
| City of Jefferson | City of Jefferson Comprehensive Master Plan, 1998 | 1998 |
| City of Lake Mills | City of Lake Mills Master Plan, 1998 | 1991 |
| City of Waterloo | City of Waterloo Land Use Plan, 1995 | 1995 |
| City of Watertown | City of Watertown Comprehensive Master Plan, 2000 | 1968 |
| Village of Johnson Creek | Village of Johnson Creek Comprehensive Master Plan, 1999 | 1996 |
| Village of Palmyra | Village of Palmyra Land Use Plan, 1994 | 1995 |
| Village of Sullivan | Village of Sullivan Economic Development Plan, 1989 | 1989 |
| Town of Lake Mills | Follows County Plan | County Zoning |
| Town of Milford | Follows County Plan | County Zoning |
| Town of Oakland | Comprehensive Growth Plan, 1997 | County Zoning |
| Town of Palmyra | Follows County Plan | County Zoning |
| Town of Sullivan | Follows County Plan | County Zoning |
| Town of Sumner | Town of Sumner Long Range Plan, 1997 | County Zoning |
| Town of Waterloo | Follows County Plan | County Zoning |
| Town of Watertown | Follows County Plan | County Zoning |
| Dodge County | Dodge County Plan, 1999 | 1999 |
| Village of Clyman | No Plan | 1977 |
| Village of Hustisford | Plan 1976 - Inactive | 1999 |
| Village of Lowell | No Plan | 1994 |
| Village of Reeseville | No Plan | 1991 |
| Town of Lowell | Follows County Plan | No Zoning |
| Town of Shields | No Plan | Follows County Plan |

Source: SmithGroup JJR, 2000.

4.1.1.1 South Segment

In the South Segment from Janesville to the south side of Fort Atkinson, the primary land use impacts are related to the Milton Bypass. Both Alternatives S2 and S3 bypass around the south and east sides of Milton and rejoin the existing corridor approximately 1.0 mile (1.6 kilometers) north of the existing City limits. All of the alternatives under consideration maintain STH 26 in its existing alignment through the rural areas between Janesville and Milton and between Milton and Fort Atkinson.

The No-Build Alternative is inconsistent with the *City of Milton's Comprehensive Master Plan*. The No-Build Alternative would result in continuation of high levels of both automobile and truck through-traffic in the older, established portion of the community. This traffic is disruptive to residential neighborhoods and creates a major barrier to both pedestrian and vehicular traffic movements in the community. The continuing nuisance factors associated with the routing of STH 26 through the central part of the community would have long-range negative impacts on neighborhood and business district development.

Alternative S2 bypasses the City of Milton south and east of the existing STH 26 alignment before it crosses STH 26 in Milton and travels west of STH 26. Alternative S2 rejoins the existing STH 26 north of the City of Milton, but within the City's long-range urban service area. Alternative S2 would cross through the planned Northside Residential Neighborhood area that is located between the existing STH 26 corridor and John Paul Road. *The City of Milton Comprehensive Master Plan* indicates that this future planned neighborhood area includes approximately 300 acres of future development land. There will be a mixture of uses including residential, community park, retail, office, and institutional uses. The City's plans for the Northside Residential Neighborhood would need to be revised to take into consideration Alternative S2.

Alternative S3 follows a route similar to Alternative S2 around the south and east side of Milton, but then Alternative S3 continues northerly staying east of the current STH 26 alignment to a point approximately 1.0 mile (1.6 kilometers) north of the City's long-range urban service area boundary. Alternative S3 affects substantially less area within the City's long-range urban service area; however, it would impact existing rural residential subdivisions (The Reserve and Oak Ridge Estates) and other rural residences northeast of the City. Alternative S3 would create a new interchange in a rural area approximately 1.0 mile (1.6 kilometers) north of the City's long-range urban service area boundary.

Local Government Position Statements

The City of Milton's Administrator has submitted a letter, dated December 9, 1999, indicating that the Milton City Council favors Alternative S3, providing the alternative would include three interchanges. The City Council letter indicates that Alternative S3 would have the least adverse impact to both existing and planned growth areas within the City. The three interchanges favored by the City include an interchange on the south side of the City immediately north of Bingham Road, an interchange near the Eastside Industrial Park at STH 59, and an interchange north of the City near Klug Road (See Appendix A). The City of Milton submitted a resolution on June 21, 2000 (See Appendix A) supporting Alternative S3, and requesting an interchange or signalized intersection near Townline Road on the south boundary of the city.

The City of Milton Planning Consultant has also provided a letter, dated February 10, 2000, indicating that Alternative S3 is the most consistent with the City's past planning efforts and would have the least adverse impact on the community (See Appendix A).

The Milton Town Board has submitted letters, dated September 15, 1999, and January 17, 2000, indicating that the Town Board supports Alternative S2 (formerly identified as Alternative 1E1). The Town of Milton would like to remain rural. The Town has indicated that Alternative S2 would do the most to preserve existing farmland and farmsteads; prevent erosion of the tax base; and prevent disruption of existing rural residential developments. (See Appendix A)

The Rock County members of the STH 26 Task Force, the Milton Town Board and Task Force, and the Harmony Town Board and Task Force submitted a letter, dated March 13, 2000, indicating support for Alternative S2 with some modifications. (See Appendix A)

4.1.1.2 Central Segment

In the Central Segment from Fort Atkinson to the south side of Johnson Creek, the primary land use impacts are related to the Jefferson Bypass. Alternative C1 (far west) and C2 (near west) are west side bypasses and Alternatives C3 (near east) and C4 (far east) are east side bypasses. All of the proposed

alternatives utilize the existing STH 26 Bypass around the City of Fort Atkinson and rejoin the existing alignment north of the City of Jefferson.

The No-Build Alternative is inconsistent with the recently adopted City of Jefferson Comprehensive Master Plan and the Jefferson County Agricultural Preservation and Land Use Plan in that it does not address regional transportation and economic needs. Nor would the No-Build Alternative address traffic congestion, truck routing, and cross-town mobility, all of which are issues identified in the City of Jefferson Comprehensive Master Plan.

Alternatives C1 and C4, which extend outside the City of Jefferson's long-range urban service area, are the least consistent with the local land use planning because of their impact on agricultural preservation and the distance of the interchanges with USH 18 from the City of Jefferson. Both Alternative C1 and C4 would result in loss of farmland and farm severances in areas planned for long-range agricultural preservation. Both alternatives would create interchanges with USH 18 that are relatively far from existing development areas.

For the purposes of this discussion, the two slight modifications of Alternative C2 west of the City of Jefferson, referred to as C2(a) and C2(b), have similar impacts as Alternative C2. Therefore, Alternative C2 will only be discussed throughout the remainder of this topic unless otherwise stated.

Alternatives C2 and C3 are both generally more consistent with adopted land use plans because both routes are within or near the long-range urban service area boundary of the City of Jefferson. While both C2 and C3 would impact existing farmland, most of the impacted farms are within the City's long-range urban service area and are proposed for future development. While *the City of Jefferson Comprehensive Master Plan* does not specify a single favored bypass route, the City Plan Commission and City Planner have indicated that the City considers Alternative C2 (near west side) the most consistent with previous City planning.

Alternatives C1 and C2 both bisect the 645-acre Jefferson County Farm Property on the southwest side of the City of Jefferson and would impact some of the site planning that has occurred on that site. While this property is currently in the Town of Jefferson, both the *Jefferson County Agricultural Preservation and Land Use Plan* and the *City of Jefferson Comprehensive Master Plan* indicate that this area is within the long-range urban service area of the City of Jefferson and is likely to be developed at some point in the future. The Jefferson County Economic Development Corporation retained the Planning and Design Institute and the Department of Urban and Regional Planning at the University of Wisconsin-Madison to prepare a land use plan study entitled *Countryside Farm Study*. If either C1 or C2 were selected, the concept development plan for the Jefferson County Farm Property would need to be revised. A letter dated February 3, 2000 (see Appendix A) from John Weiss, Chair, Jefferson County Planning and Zoning Committee, indicates that either Alternative C1 or C2 would "have significant negative impacts on the vision and priority program elements developed over the past four years."

Local Government Position Statements

The City of Jefferson Plan Commission has submitted a letter dated December 9, 1999 supporting a near west alternative (see Appendix A). The letter indicates that growth on the east side of the City is likely to be limited by lack of developable space and difficulty connecting with public utilities. The Commission observes that there is more opportunity for growth on the west side and therefore an alternative on the near west side could serve more development. In addition, a key concern of the Plan Commission is the close proximity of Alternative C3 to the St. Coletta School and associated out buildings.

The Town of Farmington has also submitted a letter, dated December 2, 1999, indicating that a near west bypass would be most consistent with the *Town of Farmington Land Use Plan*. (See Appendix A)

The Town of Aztalan submitted a letter dated March 9, 2000 opposing any bypass route that would go through the Town of Aztalan. The Town of Koshkonong submitted a response letter dated May 26, 2000, indicating support for near west Jefferson bypass Alternative C2(b). (See Appendix A)

4.1.1.3 North Segment

The North Segment extends from Johnson Creek to north of Watertown. The primary land use impacts in the North Segment are related to the proposed bypass around the City of Watertown. Alternative N1 is a west side bypass and Alternative N2 is an east side bypass. Both the alternatives utilize the existing STH 26 alignment from Baneck Lane to the south side of the City of Watertown and rejoin the existing STH 26 alignment north of the City of Watertown.

The No-Build Alternative is inconsistent with the recently adopted *City of Watertown Comprehensive Master Plan*, the *Jefferson County Agricultural Preservation and Land Use Plan*, and the *Dodge County Plan* in that it does not address regional transportation and economic needs. Nor would the No-Build Alternative address traffic congestion, truck routing, and cross-town mobility, all of which are issues identified in the *City of Watertown Comprehensive Master Plan*.

Alternative N1 is consistent with the *City of Watertown Comprehensive Master Plan* and is supported by City of Watertown officials. This route will serve both the expanding residential and industrial districts on the west side of the City. The route is within the City's long-range urban service area and farmland impacted by the route is in areas planned for long-range urban development.

Alternative N2 is less consistent with City of Watertown planning. While portions of the road would utilize existing STH 16 right-of-way, Alternative N2 would create a new eastside interchange outside the City's long-range urban service area boundary that could potentially stimulate development in areas planned by Jefferson County for rural preservation.

Letters of Support

The City of Watertown has passed a Resolution, dated March 10, 2000, declaring the City's official support for a west side bypass. The City of Watertown City Planner has provided a similar letter of support, dated January 14, 2000. Alternative N1 would enhance access to the planned west side residential neighborhoods and to the planned commercial and industrial districts along STH 19. (See Appendix A)

The Town of Watertown Board submitted a letter, dated March 16, 2000, supporting a Through-Town Railroad Corridor Alternative that utilizes a combination of the existing STH 26 corridor and portions of the railroad corridor west of downtown Watertown. The Town of Watertown Board submitted a second letter dated, May 18, 2000, stating "an official request that the Central Railway Corridor be looked at fully and studied intensely along with the updated alternatives that have been sent concerning the interchanges. It is in the Town's best interest to have the Bypass go along this route so as not to use valuable farmland and to make the route as viable as possible for the City's downtown and the Township (See Appendix A). The Through-Town Railroad Corridor Alternative favored by the Town of Watertown fails to meet the basic transportation objectives for STH 26 improvements and has not been an alternative carried forward to the Draft Environmental Impact Statement stage.

4.1.2 Institutional Impacts

Institutional impacts are impacts related to schools, churches, museums, institutional care facilities, and government facilities. Institutional impacts can include both direct impacts due to loss of property, noise, and other environmental impacts and indirect impacts associated with access.

4.1.2.1 South Segment

With the No-Build Alternative, traffic would continue routing on the existing STH 26 alignment past the Milton House museum and East Elementary School. The No-Build Alternative would perpetuate some of the existing circulation and congestion problems and continue routing traffic through the community in a manner that divides the community and impedes safe internal circulation between residential neighborhoods and nearby institutions, particularly East Elementary School and the High School and Middle School, which are located west of the existing STH 26 corridor.

Alternative S2 and S3 are both routed east of the existing STH 26 corridor to minimize impacts to the Milton House museum and other key institutions in the community. Diversion of traffic to bypasses would result in a benefit to institutions located along existing STH 26 in Milton due to a reduction in traffic volumes including trucks.

4.1.2.2 Central Segment

In the City of Jefferson, the No-Build Alternative would impact a number of community institutions by continuing the pattern of separating neighborhoods from schools, churches and other local institutions. In particular though-traffic on the existing STH 26 corridor separates both the Jefferson High School and Middle School, both of which are on the west side of the City, from the majority of the residences, which are located east of STH 26. The current alignment is routed in front of both the County Courthouse and City Hall and contributes to overall pedestrian safety problems and congestion that adversely impact these institutions.

The primary institutions that could be directly impacted by the Central Segment build alternatives are St. Coletta's School, located on the east side of the City of Jefferson, the Jefferson County Farm Property located on the southwest side of the City of Jefferson, and a church located on the west side of the City. The church located on USH 18 would have to be relocated under Alternative C2(b) for the construction of the interchange.

Institutions impacted by the alternative highway alignments include the Jefferson Middle School and High School campuses and a church which are located on the City's west side, and some of the churches and elementary schools that are adversely impacted by the current STH 26 alignment through the central portion of the City. Neither Alternative C1, C2, C2(a), or C2(b) would directly impact the fairgrounds or schools, but either route would provide enhanced access.

In the City of Fort Atkinson, the recently constructed Fort Atkinson High School is near the existing STH 26 bypass corridor on the west side of the City. Converting the bypass to four lanes and restricting access at Hoard Road and Banker Road could have an effect on school bus routing. The City of Fort Atkinson Municipal Airport, located on the northeast side of Fort Atkinson could be impacted by closure of Airport Road, which could occur under Alternatives C2, C2(a), C2(b), C3, and C4.

St. Coletta's School

St. Coletta's School, a private facility serving people with developmental disabilities, is located on the east side of the City of Jefferson approximately one mile (approximately 1.6 kilometers) east of the existing STH 26 corridor. Many of St. Coletta's clients live at or near the campus and walk along USH 18 between the City and the school campus.

The west side bypasses and the No-Build Alternative would not impact St. Coletta's School.

The Alternative C3 corridor and interchange would divide the St. Coletta campus and pose potential pedestrian safety concerns for residents and employees. The St. Coletta greenhouse would have to be relocated. The campus would likely lose much of its "rural character" if a major roadway divided it.

Alternative C4, which is located east of the St. Coletta's School, would indirectly impact the campus due to increased traffic traveling on USH 18 between the east interchange and the City of Jefferson.

Jefferson County Farm Property

The west side bypasses, Alternatives C1, C2, C2(a), and C2(b) could affect access to a number of institutional uses located on the Jefferson County's Farm Property. These institutions include the Jefferson County Human Services Department, Health Department, Elderly Services, the County's Countryside Home, and University of Wisconsin Extension offices. Jefferson County has considered locating additional institutional uses on the site including a community based residential facility for adolescents, medical clinics to support assisted housing, a county highway garage complex, and a new Human Services Department building. The west bypass alignments would potentially use land that could otherwise be used to develop County facilities.

4.1.2.3 North Segment

The primary institutions that could be impacted in the North Segment are the various schools, churches, and the institutions located in the City that would be adversely impacted by failure to construct a bypass that would route through-traffic around the City.

Both Alternatives N1 (west side alternative) and N2 (east side alternative) would have a beneficial impact in terms of removing through-traffic that currently causes congestion and creates a barrier to cross-town circulation. Alternative N1 could provide enhanced access to both Watertown High School and Maranatha Baptist College, which are located on the City's west side and could be accessed via the Highway 19 interchange.

4.1.3 Agricultural Impacts

A general discussion of agricultural impacts below is followed by a more specific discussion of impacts for each alternative.

Primary agricultural impacts include loss of farmland or farm buildings due to roadway and interchange construction; the severance of farms such that a portion of the farm is inaccessible or a farmer must cross the road to conduct routine farm operations; highway runoff to prime agricultural soils; increased noise levels; and reduced air quality.

Potential indirect impacts to agricultural land include more difficult farm-market connections in urban and rural areas; changed land value; reduced farm productivity; and potential loss of farmland from residential or commercial development that may occur, in part, due to improved highway access.

An Agricultural Impact Statement (AIS) will be prepared after the selection of a Preferred Alternative to assess the potential environmental consequences of the Preferred Alternative on the nearby farm operations. In accordance with standard AIS procedure, copies of the completed AIS will be sent to all farm operators in the project corridor. Appendix C has been reserved for the AIS.

In accordance with the Farmland Protection Policy Act, Farmland Conversion Impact Rating Forms (AD-1006) have been completed and are located in Appendix A. The impact rating evaluates the proposed conversion of farmland to highway uses.

Under the No-Build Alternative, no farmland would be converted to non-agricultural use. However, increased traffic congestion along the existing 2-lane highway in rural areas may impact farming operations. Transporting goods and services for farmers would weaken as travel time increases. Residents along the highway have expressed concern regarding their safety as they travel along and cross the existing roadway. As congestion worsens, conflicts between the adjacent farming operations and the through traffic will occur more frequently.

Depending on the alternative combination chosen, between 1059 acres (428 ha) and 1520 acres (615 ha) of farmland would be taken along the entire project length. The United States Department of Agriculture, Natural Resources Conservation Service determined that between 846 acres (342 ha) and 1342 acres (543 ha) of this is prime and unique farmland. This shows that more than 75 percent of the farmland acquisition is classified as “prime” farmland under the Farmland Protection Policy Act. Prime farmland is defined as land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber and oilseed crops. In general, prime farmland in Wisconsin:

- Has an adequate and dependable water supply from precipitation or irrigation
- Has a favorable temperature and growing season
- Has acceptable acidity or alkalinity
- Has few or no rocks
- Is permeable to air and water
- Is not excessively erodible
- Is not saturated with water for long periods of time
- Does not flood frequently, or is protected from flooding

All build alternatives would sever farm parcels. These severances could create irregularly shaped fields and divide the farm residence and/or buildings from farm fields. This could increase the cost of working such fields, create new access problems, and possibly create drainage, safety, weed, and litter problems. Change in property access could require farmers to travel along or across the new roadway and/or farther distances to work fields. Farmers hauling equipment or driving large machinery will need to cross two lanes of traffic, stop in the median, and continue across the other two lanes when the traffic is clear. The median is proposed to be 60 feet (18 m) wide, which would accommodate most farm machinery crossings.

Many of the bypass alternatives are within approved urban service areas. Urban service areas are planned for urban growth and services typically within a twenty-year period. Farmland within an approved urban service area will typically be converted to non-farm uses within twenty years.

Many farm operations would be impacted by losing a strip of land along existing STH 26 for widening the current right-of-way. The photograph above shows a typical rural stretch of STH 26 where farm impacts might be limited to a strip along the existing road. This strip right-of-way acquisition would vary in size along the route depending on the existing topography and the proposed centerline alignment.



4.1.3.1 South Segment

Table 4.1.3.1 summarizes agricultural impacts to the South Segment including total acres required, farms impacted, new severances, impacted farms along existing STH 26, impacted farms inside of urban service area, and percent of prime farmland. The No-Build Alternative does not require any conversion of farmland to highway right-of-way.

Typical Existing STH 26 Farmland Strip Impacts

| TABLE 4.1.3.1 SOUTH SEGMENT FARMLAND IMPACT SUMMARY | | | | | | |
|--|------------------------------|-------------------|-------------------|--|-------------------------------|-------------------------------------|
| Alternative | Total Acres (ha) Required | Farms Impacted | New Severances | Impacted Farms Along Existing STH 26 | Impacted Farms Inside USA* | Total Acres (ha) Prime Farmland |
| S2 | 307 (124) | 30 | 8 | 17 | 9 | 270 (109) |
| S3 | 315 (127) | 31 | 7 | 17 | 7 | 275 (111) |

* USA – Urban Service Area

Alternatives S2 and S3 would require comparable amounts of existing farmland, but much of the existing agricultural land affected by Alternative S2 is planned for residential and industrial use. Therefore, Alternative S2 would affect less agricultural land in the long-term.

Alternatives S2 and S3 include the same interchange at STH 59 that is located on existing agricultural land that is planned for industrial use as designated by the *City of Milton Comprehensive Master Plan*. Alternative S2 has an interchange along Bowers Lake Road that would displace agricultural land; this area has been designated for residential use.

Alternative S3 includes an interchange immediately north of the City of Milton on the east side of the corridor. Alternative S2 also joins STH 26 at this point without an interchange. The Alternative S3 interchange area could receive strong market pressure for commercial development, leading to the conversion of additional farmland in the Town of Milton.

Both alternatives would have a diamond interchange at CTH N. Unplanned commercial development could occur near the interchange. This interchange development and the expansion of the existing

corridor to 4lanes through the Towns of Milton and Koshkonong would require the conversion of agricultural land to highway right-of-way.

All of the South Segment alternatives continue north along the existing STH 26 with expansion to four lanes. The area surrounding the portion of the roadway within the Town of Milton includes a mixture of environmental corridor and exclusive agricultural land use. The Town of Koshkonong Land Use Plan indicates that the Town plans to maintain the area surrounding STH 26 as a mixture of residential, environmental corridor and agricultural use. Expansion of STH 26 to four lanes would require use of some of this land for highway right-of-way.

4.1.3.2 Central Segment

Table 4.1.3.2 summarizes agricultural impacts to the Central Segment. The No-Build Alternative does not require any conversion of farmland to highway right-of-way and therefore it is likely to have minimal agricultural impact. The No-Build Alternative does not relieve downtown traffic and therefore it could impede farm to market connections in the Central Segment region.

| TABLE 4.1.3.2 CENTRAL SEGMENT FARMLAND IMPACT SUMMARY | | | | | | |
|--|------------------------------|-------------------|-------------------|--|-------------------------------|-------------------------------------|
| Alternative | Total Acres (ha) Required | Farms Impacted | New Severances | Impacted Farms Along Existing STH 26 | Impacted Farms Inside USA* | Total Acres (ha) Prime Farmland |
| C1 | 438 (177) | 27 | 9 | 7 | 13 | 430 (174) |
| C2 | 360 (145) | 24 | 8 | 9 | 16 | 355 (144) |
| C2(a) | 354 (143) | 22 | 5 | 9 | 14 | 349 (141) |
| C2(b) | 346 (140) | 22 | 4 | 9 | 14 | 344 (139) |
| C3 | 338 (136) | 23 | 6 | 11 | 16 | 291 (118) |
| C4 | 374 (151) | 28 | 8 | 3 | 16 | 343 (139) |

* USA – Urban Service Area

Alternatives C1 and C4 would require the greatest amount of farmland conversion to highway right-of-way and would generate the most impacts due to farm severances. Alternatives C2, C2(a), C2(b), and C3 would involve conversion of farmland to highway corridor, but most of the converted farmland is located within the urban service area and is planned for future nonagricultural uses.

Interchange and alignment construction of Alternatives C1, C2, C2(a), and C2(b) would require conversion of a portion of the Jefferson County Farm property that is currently in agricultural use. This land is located within the urban service area and is planned for future nonagricultural uses.

Alternative C1 includes an interchange at the intersection of USH 18 that would impact farmland by requiring additional land conversion for the interchange right-of-way. This interchange would potentially stimulate market pressure for the conversion of additional farmland near the interchange to highway-oriented commercial development. Alternatives C2, C2(a), and C2(b) also include an interchange at USH 18, however these interchanges are located closer to the City of Jefferson than Alternative C1.

Construction of these interchanges would require converting farmland that is located in a floodplain to highway right-of-way.

Alternatives C3 and C4 would also potentially stimulate market pressure for the conversion of additional farmland near the USH 18 interchange to highway-oriented commercial development. However, much of the land in this area is owned and occupied by St. Coletta of Wisconsin.

4.1.3.3 North Segment

Table 4.1.3.3 summarizes agricultural impacts to the North Segment. The No-Build Alternative does not require any conversion of farmland to highway right-of-way. The No-Build Alternative does not relieve downtown traffic and therefore it could impede farm to market connections in the North Segment region.

| TABLE 4.1.3.3 | | | | | | |
|--|------------------------------|-------------------|-------------------|--|-------------------------------|-------------------------------------|
| NORTH SEGMENT FARMLAND IMPACT SUMMARY | | | | | | |
| Alternative | Total Acres (ha) Required | Farms Impacted | New Severances | Impacted Farms Along Existing STH 26 | Impacted Farms Inside USA* | Total Acres (ha) Prime Farmland |
| N1 | 767 (310) | 80 | 13 | 60 | 12 | 637 (258) |
| N2 | 415 (167) | 83 | 5 | 67 | 15 | 285 (115) |

* USA – Urban Service Area

Alternative N1 would have the greatest primary agricultural impact on existing farmland, but all of the converted farmland is within the City's long-range urban service area and is planned for nonagricultural uses. Alternative N2, particularly the east side interchange, would affect more farmland outside the City's urban service area. The east side interchange for Alternative N2 is outside the City's planned urban service area and could stimulate loss of farmland due to commercial development.

4.1.4 Transportation and Community Access

All of the build alternatives would reduce congestion and travel time, enhance safety, and provide an adequate level of service for forecasted traffic volumes along STH 26. All improvement alternatives would provide a minimum uninterrupted travel speed of 55-mph for traffic on the new facility. As discussed in Section 2, the No-Build Alternative would not meet the purpose and need for these objectives, nor would it improve local mobility for the communities. The build alternatives may affect some of the local rural mobility by causing some modification of travel.

Inter city public transportation facilities or alternative motorized transportation modes cross the project corridor but are not available for travel within the project corridor. Therefore, the build alternatives would not directly impact such services. The local area is dependent upon STH 26 as a link providing access to these alternative facilities outside the project area. Expanding STH 26 from two to four lanes would improve travel time, access, and safety to and from regional airports, inter city bus, and rail facilities.

The build alternatives maintain the continuity of existing bicycle routes by use of grade separation to cross the new STH 26 roadway or relocation of the bike route to a parallel route. The Jefferson County Glacial River Trail south of Fort Atkinson would be maintained in its existing corridor with a slight adjustment to the west near the Rock/Jefferson County line.

4.1.4.1 Highways

Traffic forecasts for the improvement alternatives were determined for the proposed build year (2008) and design year (2028). The forecasted volumes were developed from current traffic volumes, WisDOT origin-destination surveys, historical WisDOT data, and consideration of existing and planned land use patterns. Exhibits 1 through 3 present current and forecasted Average Daily Traffic (ADT) for the No-Build and each of the improvement alternatives.

Level of Service (LOS) for roadway capacity was determined based on the Highway Capacity Manual procedures and from coordinated arterial system modeling for in-town alternatives. The roadway design criteria for STH 26 as a *Corridors 2020* connector route requires the roadway to be able to operate at LOS C or better in the design year of 2028.

Crashes along this portion of STH 26 were analyzed in Section I. Upgrading from a two-lane facility to a four-lane facility would improve traffic operations and safety throughout the project corridor.

The No-Build Alternative is not consistent with regional and statewide transportation goals. STH 26 is planned to function as a link in the statewide *Corridors 2020* connector network and as a safe, efficient truck route. The low speeds, congestion, and conflicts with local traffic in the communities of Milton, Jefferson, and Watertown would severely limit the highway's function in the regional network.

South Segment

STH 26 between CTH Y just north of IH 90 at Janesville and STH 59-East at Milton was improved as a four-lane divided highway with at-grade access in 1999. Under all alternatives, the STH 26 traffic between CTH Y and Milton is expected to increase from 18,500 ADT to 33,000 ADT by the design year 2028. A high number of access points are located throughout this section of roadway. If no intersections in this segment are signalized, free flow traffic on STH 26 would operate at a forecasted LOS C in the design year. However, to provide reasonable and safe access as traffic volumes increase some public road intersections may need to be closed, signalized, grade separated or have interchanges built. Interruption of traffic flow on STH 26 due to signals would degrade the mobility along STH 26 to LOS D or lower. Private driveways may also need to be closed, combined or redirected to a local street system in order to enhance safety.

No capacity improvements are currently proposed for this section of roadway under any of the alternatives. Further study of access management with local units of government is planned. The results of this inter-governmental study will guide development of the proposed STH 26 alternatives between Janesville and Milton.

No-Build Alternative

Within the City of Milton, STH 26 operates as a two-lane facility with a 30-mph speed limit. Ten side roads and 54 driveways are located along STH 26, which results in reduced travel speeds, added crashes, and disruptions in traffic flow by turning movements from and onto the highway. Under the No-Build Alternative, traffic on STH 26 in Milton is expected to increase from 14,100 ADT to 25,000 ADT by the design year 2028. Travelers would be expected to experience LOS F during the design hour, which is beyond the capacity of the facility. During peak hours, drivers would experience long delays, dense traffic congestion, and severe deterioration of operations at intersecting streets and driveways. Pedestrians would experience difficulties crossing the roadway due to the lack of appropriate traffic gaps. Police, fire, and EMC services would be affected along or through the STH 26 corridor.

North of Milton to the Fort Atkinson Bypass, STH 26 is a two-lane rural highway. Under the No-Build Alternative, traffic would increase from the current 10,900 ADT to 19,500 ADT in the design year 2028 and would operate at LOS E. Turning movements onto or from the roadway would become increasingly difficult as traffic volumes increase. Passing opportunities within this rural segment would be minimal. Any minor traffic disruptions that occur would result in slow travel and/or delays.

Alternatives S2 and S3

Alternatives S2 and S3 include a bypass of the City of Milton beginning near Townline Road and joining the existing alignment near John Paul Road. Under both alternatives, an ADT of 9,500 by the design year 2028 is forecasted to use the bypass. This results in 15,500 ADT and 8,000 ADT south and north of STH 59-West, respectively, remaining on existing STH 26 in the City of Milton. Approximately 35 to 45 percent of the ADT would be removed from existing STH 26 in Milton. Both four-lane bypasses would operate at LOS A in the design year. Truck volumes on existing STH 26 within the City of Milton would be reduced by 80 to 90 percent.

In the rural section north of Milton to the Fort Atkinson Bypass, traffic volumes are projected to increase from the current 10,900 ADT to 19,500 ADT in the design year 2028. This four-lane rural segment would operate at LOS B in the design year.

Central Segment

No-Build Alternative

Along the Fort Atkinson Bypass, traffic volumes on STH 26 are projected to increase from 7,000 ADT to 14,000 ADT in the design year 2028. Under the No-Build Alternative, this two-lane facility would operate at LOS E in the design year. From the Fort Atkinson Bypass to the City of Jefferson, traffic volumes are projected to increase from the current 11,200 ADT to 21,000 ADT in the design year 2028 with operation at LOS E.

Within the City of Jefferson, STH 26 is currently mostly a two-lane facility with a 30-mph speed limit. Thirty-one side roads and 63 driveways intersect STH 26, which results in reduced travel speeds, and disruptions in traffic flow by turning movements from and onto the highway. Under the No-Build Alternative traffic in Jefferson is expected to increase from 21,300 ADT to 38,000 ADT in south Jefferson; 16,600 ADT to 31,000 ADT south of USH 18; and 15,000 ADT to 28,000 ADT north of USH 18 by the design year 2028. Travelers are forecasted to experience LOS E and F during certain hours of the day. During peak hours, drivers would experience long delays, dense traffic congestion, and severe deterioration of operations at intersecting streets. Pedestrians would experience difficulties crossing the roadway due to the lack of appropriate traffic gaps.

North of Jefferson to Johnson Creek, traffic volumes are forecasted to increase from 10,900 ADT to 21,000 ADT with operation at LOS E in the design year. Turning movements onto or from the roadway would become increasingly difficult as traffic volumes increase on this two-lane section of roadway. Passing opportunities within this rural segment would be minimal.

Alternatives C1, C2, C3, and C4

All Central Segment alternatives consist of a 4-lane divided rural highway, including the existing Fort Atkinson Bypass, which adds a second roadway to the existing 2 lane bypass highway within the existing right-of-way. Traffic volumes in this section are forecasted to increase from 7,000 ADT to 14,000 ADT in the design year 2028. By adding the second roadway and separating the opposing traffic, the four lane roadway would operate at Level of Service (LOS) A.

For the purposes of this discussion, the two slight modifications of Alternative C2 west of the City of Jefferson, referred to as C2(a) and C2(b), have similar impacts as Alternative C2. Therefore, Alternative C2 will only be discussed throughout the remainder of this topic unless otherwise stated.

Alternatives C1 and C2 are west bypasses of the City of Jefferson. Alternatives C3 and C4 are near east and east bypasses, respectively. Between Fort Atkinson and Jefferson, Alternative C1 would be on relocation west of the Union Pacific Railroad with existing STH 26 remaining as a local road connecting the two cities. Alternative C1 would provide substantial transportation benefits by separating the through traffic on STH 26 from the local traffic traveling between Fort Atkinson and Jefferson. Safety would improve for all traffic and the traffic flow on STH 26 would be much smoother without the conflicts from local traffic entering and exiting the traffic stream in the short distance between the two cities.

Alternatives C2, C3, and C4 are proposed to remain on existing STH 26 between Fort Atkinson and Jefferson. Since STH 26 would not have any at-grade access between interchanges in this section, local traffic would be required to use either CTH K or a new road for access. CTH K does not have the capacity to safely carry substantially increased traffic volumes at highway speeds.

Traffic volumes west of Jefferson along Alternatives C1 and C2 are forecasted to be 14,000 ADT south of USH 18 and 12,500 north of USH 18 in the design year 2028. Traffic volumes east of Jefferson along Alternative C3 are forecasted to be 12,500 south of USH 18 and 11,500 north of USH 18. Traffic volumes along Alternative C4 are forecasted to be 12,000 south of USH 18 and 10,500 north of USH 18. Alternative C3 is projected to have slightly higher volumes than the other east side bypass alternative because the east and north interchanges on Alternative C3 are located closer to the city. All bypasses east and west of Jefferson would operate at LOS A. The bypasses are forecasted to reduce existing STH 26 traffic volume in the City of Jefferson by 35 to 50 percent and reduce truck volume by 40 to 50 percent.

Alternatives C1, C2, and C3 provide good access to the City of Jefferson and particularly the Jefferson industrial area in the northwest part of the City via an interchange in the vicinity of existing STH 26 and Junction Road. There is a concern that Alternative C3 would encourage trucks to enter the City from the east. Providing an adequate turning roadway for large trucks turning from westbound USH 18 to northbound STH 26 would require removal of a National Register historic building in the downtown historic district.

Alternative C4 has both transportation advantages and disadvantages. Its advantage is it totally bypasses the section of STH 26 between Jefferson and Johnson Creek. This section of existing STH 26 has several

side roads and driveway intersections serving substantial residential development. Closure or consolidation of these access points would have to be considered under Alternatives C1, C2, and C3. Even with this access control and depending on land development patterns, the side road and STH 26 traffic volumes between Jefferson and Johnson Creek could grow to the point where access to STH 26 would be difficult and the STH 26 level-of-service would be reduced.

A disadvantage for Alternative C4 is the location of the interchanges. The Alternative C4 bypass interchange for USH 18 is east of St. Coletta. All traffic headed for Jefferson would have to travel on the section of USH 18 that traverses the St. Coletta property and is in a deep cut on a steep grade. This route is highly undesirable for both traffic and for St. Coletta residents for safety and efficiency reasons. The Alternative C4 north Jefferson interchange is located on Junction Road near CTH Y. This location does not serve the desired traffic flow from the north and northwest sides of Jefferson and from the Jefferson north side industrial area as well as the other three bypass alternatives.

A second disadvantage for Alternative C4 is the connection to existing STH 26 at the south edge of Johnson Creek. Traffic on Old STH 26 would be required to follow an indirect route via CTH Y, South Street, and CTH B in Johnson Creek to reach STH 26. This would substantially increase the driving time for the estimated 10,000 drivers each day on Old STH 26 and would create a major signalized intersection on STH 26 at CTH B with an associated decrease in level-of-service.

The west side bypass alternatives provide two transportation benefits that the east side alternatives do not provide. Traffic flow, and particularly truck traffic, within the Central Segment is generally more oriented to USH 18 to the west to Madison and STH 89 to Lake Mills than it is to USH 18 to the east towards Helenville. Travelers going to the Milwaukee area typically follow STH 26 north to IH 94 to go east. The west bypass alternatives facilitate this desired westerly traffic flow and allow STH 89 to be moved from its current location on a substandard old county highway route to the bypass route.

The existing and planned land use on the west side of Jefferson has a large commercial and institutional component. A growing commercial area is located along USH 18 east of the Crawfish River. Three schools, high, middle, and elementary schools are also located just east of the Crawfish River. The Jefferson Performing Arts Center, with regularly scheduled high quality performances, is located at the high school. The County Fair Grounds, with over 150 scheduled events throughout the year, some having attendance upwards of 40-50,000 visitors per day, is located on the northwest side of the City. The Jefferson Speedway is located a few miles west of the City. These land uses generate substantial daily and special event traffic and truck volumes from outside the City of Jefferson. Many of the drivers would be unfamiliar with the area. The west side bypasses would provide an efficient and safe route for drivers to reach these destinations without the delay and safety issues of traveling through the entire City.

North of Jefferson to Johnson Creek, Alternatives C1, C2, and C3 would follow existing STH 26 as a four-lane expressway to the Village of Johnson Creek. Traffic volumes along this section of roadway would increase from 10,900 ADT to 21,000 ADT in the design year 2028. This section of roadway would operate at LOS B, assuming additional development along STH 26 is minimal as planned in the Jefferson County Land Use Plan.

STH 26 would be improved under a separate construction project in 2001-2002 from the south limits of Johnson Creek to the end of the Central Segment (Baneck Lane). All alternatives follow the improved STH 26 in this section. This section of STH 26 will be improved to a four-lane divided highway with controlled access to limit the number of side road intersections and improve capacity and safety. Traffic volumes within this section are forecasted to be in the range of 27,500 to 39,500 ADT in the design year

2028. Proper signalized intersection spacing and signal coordination/timing could provide progressive traffic flow along STH 26.

No capacity improvements are currently proposed for this section of roadway under all alternatives, however some public road access may need to be grade separated, interchanged with STH 26, or modified to allow for safer and smoother travel. Further study of access management with local units of government is planned. The results of this inter-governmental study will guide development of the proposed STH 26 alternatives in Johnson Creek.

North Segment

No-Build Alternative

From Baneck Lane to the City of Watertown, traffic volumes along STH 26 are forecasted to increase from 10,400 ADT to 20,000 ADT in the design year 2028. This section of roadway would operate at LOS E in the design year. Turning movements onto or from the roadway would become increasingly difficult as traffic volumes increase on this two-lane section of roadway. Passing opportunities within this rural segment would be minimal.

Within the City of Watertown, STH 26 will be improved in 2002 to a four-lane highway south of STH 19 (Main Street), but will remain as a two-lane highway north of STH 19. Twenty six side roads and 109 driveways intersect STH 26, which result in reduced travel speeds and disruptions in traffic flow by turning movements from and onto the highway. Under the No-Build Alternative, traffic volumes south of STH 19 are forecasted to increase from 20,500 ADT to 37,000 ADT, and from 14,500 ADT to 26,000 north of STH 19 in the design year 2028. This important highway connection with STH 19 would operate at LOS F in the design year. STH 26 north and south of STH 19 would operate at LOS D or worse. During peak hours, drivers would experience long delays, dense traffic congestion, and severe deterioration of operations at intersecting streets. Pedestrians would experience difficulties crossing the roadway due to the lack of appropriate traffic gaps.

North of Watertown, traffic volumes are forecasted to increase from 8,700 ADT to 15,500 ADT with operation at LOS E in the design year. Turning movements onto or from the roadway would become increasingly difficult as traffic volumes increase on this two-lane section of roadway. Passing opportunities within this rural segment would also decrease.

Alternative N1 and N2

Alternatives N1 and N2 would follow STH 26 from Baneck Lane to the City of Watertown as a four-lane expressway. Traffic volumes on this section of roadway are forecasted to increase from 10,400 ADT to 20,000 ADT in the design year 2028 with operation at LOS B.

Alternatives N1 and N2 are west and east bypasses of the City of Watertown, respectively. Traffic volumes along Alternative N1 west of Watertown are forecasted to be 11,500 ADT south of STH 19 and 12,500 ADT north of STH 19 in the design year 2028. Traffic volumes along Alternative N2 east of Watertown are forecasted to be 9,000 ADT south of STH 16 and 22,000 ADT north of STH 16. Both west and east bypasses would operate at LOS A in the design year. Alternative N1 is estimated to reduce traffic on existing STH 26 in Watertown by 30 to 45 percent compared to Alternative N2 reducing this volume by 20 to 35 percent. Truck volumes on existing STH 26 in Watertown would be reduced by 45 to 50 percent under Alternative N1 and 40 to 45 percent under Alternative N2.

Alternative N1 provides a substantial transportation benefit by connecting STH 26 and the existing STH 16 bypass north of Watertown. STH 19 follows Main Street through the heart of the downtown commercial area of the City. Alternative N1 provides motorists traveling on STH 19 with the opportunity to bypass the City of Watertown to the north, further reducing traffic and truck volumes along both STH 19 and existing STH 26 in Watertown. The City of Watertown has an existing large industrial area and planned commercial development on the west side of the City. The west side bypass Alternative N1 would best serve traffic from this development.

North of Watertown, both build alternatives would follow existing STH 26 as a four-lane rural expressway. Traffic volumes along this section of roadway are forecasted to increase from 8,700 ADT to 15,500 ADT in the design year 2028. This section of roadway would operate at LOS B.

4.1.4.2 Airports

According to Section 114.134(2), Wisconsin Statutes: “No person shall operate an airport within this state unless all runways and landing strips are so located that approaching and departing aircraft clear all public roads, highways, railroads, waterways or other traverse ways by a height which complies with applicable federal standards.” Also, the Wisconsin Department of Transportation, Bureau of Aeronautics, is to be notified when a proposed highway project that would change the horizontal or vertical alignment of a highway is within four miles of a public use or military airport.

The Fort Atkinson Municipal Airport (Exhibit 6, Sheets 3A and 3B) and the Watertown Municipal Airport (Exhibit 7, Sheets 2 and 4) are located within four miles of the proposed STH 26 improvements. Coordination with the Bureau of Aeronautics was received on April 7, 1999, during the project scoping, and on June 13, 2000, after the detailed study alternatives were selected (Appendix A). All of the runways at Fort Atkinson and Watertown are either visual or non-precision approach runways. None yet fall into the precision approach category and it is unlikely any of them will within the next five years.

The detailed study alternatives were analyzed in accordance with the Federal Aviation Regulations (FAR) for obstacles near airports and how close an object may be before becoming an obstruction. The FAR states the following airspace limits:

- **Primary Surface** – The FAR states that nothing should be parked within 250 feet either side of the runway centerline, and 200 feet past each end of the runway. All detailed study alternatives are outside these limits.
- **End of Visual Approach Runway** – The FAR states that with visual approaches only, nothing should go higher than a 20:1 slope from a distance of 200 feet from the approach ends of the runways. All detailed study alternatives are within the acceptable regulations, even taking into account truck and sign bridge heights.
- **End of Non-precision Instrument Approach Runway** – The FAR states that with non-precision instrument approaches, nothing should go higher than a 34:1 slope from a distance of 200 feet from the approach ends of the runways. All detailed study alternatives are within the acceptable regulations, even taking into account truck and sign bridge heights.

- End of Precision Instrument Approach Runway – The FAR states that with precision instrument approaches, nothing should go higher than a 40:1 slope from a distance of 200 feet from the approach ends of the runways. All detailed study alternatives are within the acceptable regulations, even taking into account truck and sign bridge heights.
- Alongside the Runway – The FAR states that starting from the runway centerline, nothing should be built for 125 feet since this is a visual, utility runway. After 125 feet, a slope of 7:1 is allowed until reaching 150 feet above the runway elevation for a distance of 5000 feet from the runway. All detailed study alternatives are within the acceptable regulations, even taking into account truck and sign bridge heights.

The Bureau of Aeronautics in a letter dated April 7, 1999, (Appendix A) expressed concern over construction equipment, particularly tall cranes, that may need special consideration during construction. Prior to construction, further coordination with the Bureau of Aeronautics will take place.

4.1.4.3 Community Access

Community access refers to the impacts of the proposed improvements on highway access to the communities within the study area. In general, alternatives that do not provide sufficient interchanges or at-grade intersections can adversely impact community access. Community access can also be impacted if the interchanges or at-grade intersections are located so far from the communities that they do not serve the local residents and businesses. Maintaining efficient access is an important criterion in evaluating alternative highway alignment impacts.

Internal circulation and access to different neighborhoods or districts within a community can also be impacted by congestion on existing corridors. In the case of STH 26, the existing highway corridors through the eastern part of Milton, and the central portions of Jefferson, and Watertown are congested with through-traffic, particularly truck traffic. In the case of each of these communities, the No-Build Alternative furthers congestion and forms a barrier to efficient cross-town traffic circulation.

South Segment

Current north-south access routes into the City of Milton are Janesville Street (STH 26) and John Paul Road (CTH Y). Milton is somewhat unique for a City its size in that it has two business districts, resulting from the consolidation of two smaller communities, Milton and Milton Junction. The larger of the two districts is the east side business district, which is accessed via Janesville Street (STH 26). The smaller district is the west side business district along John Paul Road.

With the No-Build Alternative, access to the City of Milton would remain the same. The No-Build Alternative would not relieve congestion and truck traffic on Janesville Street. The STH 26 corridor would continue to form a barrier to efficient cross-town traffic circulation.

Alternatives S2 and S3 would shift STH 26 through-traffic to a bypass around the east side of the City. Access to the community would be provided by an interchange at STH 59 approximately 3,500 feet (1,070 meters) east of the existing STH 26 corridor. Under both Alternatives S2 and S3 there would be a north side interchange. A north interchange under Alternative S2 would be at Bowers Lake Road, and a north interchange under Alternative S3 would be near John Paul Road and Klug Roads. Alternatives S2 and S3 both include an interchange at CTH N. This interchange would provide safe and efficient access

for the often heavy volumes of traffic traveling east-west on CTH N and turning south onto STH 26 and into or through the City of Milton.

With the proposed Alternative S2 or S3 improvements, the primary community access from the south would be shifted to the new interchange at STH 59 east of the downtown. East High Street, rather than South Janesville Street, would become the major entrance arterial. This interchange would provide good access to the planned business park on the southeast side of the City.

In a letter dated March 13, 2000, the Rock County Members of the STH 26 Task Force, Milton Town Board and Task Force, and Harmony Town Board and Task Force requested that the Milton bypass include a “trumpet” or “half-diamond” interchange on the south side of Milton near Town Line Road (see Appendix A). The letter indicates that there are 24 businesses located on the City’s southeast side, primarily on South Janesville Street, and that access to the south side of Milton is essential to the community. In a letter/resolution dated June 21, 2000 (see Appendix A), the City of Milton requested an interchange or signalized controlled intersection be created at or immediately south of the area in which Townline Road intersects STH 26 (no further south on STH 26 than Bingham Road) to allow a free flow of traffic in a northerly and southerly direction to and from the southern boundary area of the City of Milton and also allows direct access into STH 26 from Townline Road.

With Alternative S2, the primary entrance into the City of Milton from the north would be via an interchange at Bowers Lake Road. This would provide good access to both existing and planned developments on the north side of the City, including Milton High School and Middle School.

With Alternative S3 the primary northern access to the community would be from a new interchange near the existing intersection of John Paul Road and existing STH 26. The north interchange is located 1.5 miles (2.4 kilometers) north of the City. This interchange location would provide good access to both the west side business district via John Paul Road and the east side downtown via the existing STH 26 corridor (North Janesville Street).

Between Milton and Fort Atkinson there would be an interchange at CTH N and there would be at-grade intersections at County Line Road, Hamer Lane, and Vickerman Road. Grade separation structures are proposed at Pond Road and Old Highway 26 immediately south of the Fort Atkinson bypass.

Central Segment

The No-Build Alternative would retain Main Street (STH 26) in the City of Jefferson as the primary arterial carrying both local and through-traffic, including heavy truck traffic. Access would be direct, but congestion on the existing road would make cross-town circulation increasingly difficult. Overall traffic movement both through and within the City would continue to be a problem with the No-Build Alternative.

Northwest of Fort Atkinson the at-grade intersections of Hoard Road and Banker Road would be converted to grade separation structures. This may alter some travel patterns on the northwest side of Fort Atkinson, but will not affect access to businesses or institutions in the community.

Current access into the City of Jefferson from both the north and the south is via Main Street (STH 26). With all of the proposed build alternatives there would be a south interchange connecting with the existing STH 26 corridor (South Main Street). All of the build alternatives also have interchanges with USH 18 (Racine Street) and a north interchange with the existing STH 26 corridor. Access to existing

businesses on North and South Main Street would be via the north and south interchanges. Main Street would continue to function as Business Highway 26.

The interchanges at USH 18 (West Racine Street) for the west side bypasses, Alternatives C1, C2, C2(a), and C2(b) would provide good access to the west side school campuses, the Jefferson County Fairgrounds and to the west side residential neighborhoods. The west bypasses would reconnect with the existing STH 26 corridor near Jahn Lane.

Alternative C3 would provide good access to the east side neighborhoods. There would be grade separation structures at CTH K, CTH N, and Vogel Lane. North of the USH 18 interchange there would be grade separation structures over Dewey Road and the Union Pacific Railroad. Alternative C3 would rejoin the existing STH 26 corridor near Jahn Lane.

Compared to the other three build alternatives, Alternative C4 would not provide as good of community access. The interchange at USH 18 would be approximately 1.8 miles (2.9 kilometers) northeast of downtown Jefferson and outside the City's long-range urban service area. There would be an interchange at Junction Road. Alternative C4 would reconnect to the existing STH 26 corridor near the Village of Johnson Creek where it would join the planned four-lane improvements.

All of the Central Segment build alternatives consider grade separating CTH Y at Johnson Creek, and redirecting community access to the at-grade CTH B signalized intersection.

North Segment

Current north-south access into the City of Watertown is via Church Street (STH 26). With the No-Build Alternative, through-traffic on STH 26 would continue to be routed on Church Street through the City of Watertown. Traffic conditions and levels of service would ultimately decline on this corridor and the heavy north-south traffic flow would impede cross-town circulation.

Both Alternatives N1 and N2 include interchanges on the south and north sides that would connect to Church Street. Church Street would continue to function as Business Highway 26. The south interchanges for both Alternatives N1 and N2 would be located near Turf Drive. Church Street would continue to provide the most direct route to downtown Watertown.

Alternative N1, the west side bypass, includes grade-separation structures at CTH Y, CTH A, Horseshoe Road, and CTH T (West Street). There is an interchange at STH 19. North of STH 19, Alternative N1 would cross over the Canadian Pacific Railroad tracks and Welsh Road. There is a cloverleaf interchange providing direct free-flow connections between STH 26 and STH 16. This alternative provides a convenient bypass for STH 19 traffic wanting to avoid downtown Watertown. Alternative N1 reconnects to existing STH 26 south of CTH Q.

Provimi Road will be realigned to connect with the existing STH 26 corridor. The City plans to extend a new west side connector from Provimi Road south to CTH A to provide a west side arterial for local traffic.

The west side bypass would provide good access to the west side business and industrial parks and planned residential expansion areas.

Alternative N2, the east bypass, would provide good access to the businesses on the south side of the City via the south interchange. The east interchange of Alternative N2 provides an efficient connection to STH 16-East, but would fail to improve access to the City's primary growth areas on the west side of the City. The section of Alternative N2 that utilizes the STH 16 corridor would provide enhanced community access to the northeast side of the City via half-diamond interchanges at Oak Hill Road and at CTH R (Fourth Street). Alternative N2 rejoins the existing STH 26 corridor at the existing STH 16 interchange. Under Alternative N2, STH 19 traffic including trucks would still continue to use the existing route through the Watertown downtown commercial district in order to gain access to STH 16.

4.1.5 Economic Impact on Existing Businesses

This section describes likely impacts to the economic viability of existing businesses in the STH 26 study area.

The different types of existing businesses in the study area include downtown commercial businesses such as locally-owned restaurants and retail shops; highway-oriented commercial businesses such as fast-food restaurants, gas stations and "big-box" retail stores; agribusinesses such as food processing and farm equipment sales and service businesses; and, manufacturing businesses, such as lumber yards, industrial equipment sales and service and woodworking businesses.

Downtown commercial businesses in the study area are located in the Cities of Milton, Fort Atkinson, Jefferson and Watertown, and the Village of Johnson Creek. There are highway-oriented business districts along the existing STH 26 approaches into each of the communities.

According to the WisDOT study, *The Economic Impacts of Highway Bypasses on Communities* (WisDOT 1998), bypasses generally result in positive impacts for medium to large communities (population over 1,000). All three potential bypass communities in the STH 26 study area have populations that exceed 1,000 people. Key WisDOT bypass study findings include:

- In most communities, highway bypasses have little adverse impact on overall economic activity; the economies of smaller communities have a greater potential to be adversely impacted by a bypass.
- Over the long term, average traffic levels on the "old routes" in medium and large bypassed communities are close to or higher than pre-bypass counts, indicating continued strong economic activity in those communities and the opportunity for retail trade to flourish.
- Little retail flight has occurred in bypassed communities, meaning that few businesses have relocated or developed new operations in areas adjacent to the bypass route.
- Communities view their bypasses as beneficial overall; yet, communities and individual businesses understand that the bypasses presented changes that must be addressed proactively.

The City of Fort Atkinson has experienced similar effects from a bypass as mentioned above. This community located within the project corridor was bypassed with STH 26 in 1995. According to city officials and business groups, many local residents and business owners feared potential negative effects prior to construction of the bypass. However, once the bypass was opened, the City of Fort Atkinson experienced positive effects including a reduction of traffic, particularly trucks; safer vehicle and pedestrian circulation; increased accessibility to the downtown; and a revitalization of the downtown.

Only one business closed after the bypass was opened and it is unknown whether it was related to the STH 26 bypass.

Section 1.3.2 Existing and Future Traffic Volumes shows that with almost all of the bypass alternatives, traffic on existing STH 26 is forecasted to return to, or surpass pre-bypass levels. This indicates that the economic activity of existing businesses is likely to continue and even increase in the City of Milton, City of Jefferson, and the City of Watertown.

In spite of the overall positive influence of bypasses in communities over 1,000 populations, there will be some individual businesses that will be adversely impacted by loss of through-traffic. However, existing highway-oriented businesses that are near interchanges can attract regional traffic exiting the highway for gasoline and food. Ultimately, there may also be some business loss to individual businesses due to competition from new businesses located at superior locations. This business loss could be lessened, however, by attractive destinations such as downtowns that could motivate detours from the highway.

In some rural areas there are scattered businesses with direct driveway access to the existing STH 26 corridor. In some instances, these businesses could be impacted by access restrictions.

Under the No-Build Alternative, some businesses would experience a loss of business as high traffic volumes hinder the access to and from these businesses.

4.1.5.1 South Segment

Most of the potentially impacted businesses in the South Segment are located on the existing STH 26 (Janesville Road) corridor on the south side of the City of Milton. The City of Milton estimates that up to 24 businesses could be affected by the proposed Milton bypasses.

Both Alternatives S2 and S3 would require two business relocations.

The types of businesses likely to be adversely impacted include service stations, convenience stores, and similar types of businesses that serve through-traffic. Most of the businesses that serve local clientele are unlikely to be adversely impacted and could be positively impacted by reduced congestion and better cross-town circulation.

With both Alternatives S2 and S3, average daily traffic on existing STH 26 through the City of Milton is forecasted to drop with the opening of the bypass corridors and then return close to pre-bypass levels over the first 20 years of operation.

4.1.5.2 Central Segment

Most of the potentially impacted businesses in the Central Segment are located on South Main Street in the City of Jefferson. The businesses that may be adversely impacted by a Jefferson bypass are those that serve through-traffic, such as service stations, fast-food restaurants, and motels. The majority of businesses that serve primarily local customers are likely to benefit from reduced congestion. In particular, the downtown businesses are likely to benefit from the reduction of through truck-traffic, reduced congestion, and improved pedestrian circulation.

Alternative C1 would result in two business relocations; Alternative C2 would lead to three business relocations; Alternative C2(a) would result in 4 business relocations; Alternative C2(b) would result in 5

business relocations; Alternative C3 would lead to one business relocation; and, Alternative C4 would not result in any business relocations.

Traffic forecasts for all of the Build Alternatives in the Central segment indicate that traffic on Main Street would drop with the opening of the bypass corridors and then climb to levels that exceed pre-bypass conditions during the first twenty years of operation.

4.1.5.3 North Segment

Most of the potentially impacted businesses in the north segment are located on South Church Street in the City of Watertown. The businesses that may be adversely impacted by a Watertown bypass are those that serve through traffic such as service stations, fast food restaurants, and motels. The majority of businesses that serve primarily local customers are likely to benefit from reduced congestion. In particular, the downtown businesses on Main Street are likely to benefit from better cross-town traffic circulation.

Alternative N1 would connect STH 19 with STH 16. This connection would reduce the truck traffic through the downtown area (existing STH 19 route).

Alternative N1 would result in 7 business relocations and Alternative N2 would result in 6 business relocations (Table 4.1.8).

Traffic forecasts for both North Segment build alternatives indicate that average daily traffic on the existing STH 26 corridor would drop after the opening of the bypass corridors and then gradually surpass pre-bypass conditions during the first 20 years of operation.

4.1.6 Servicing of Industrial Sites

One of the key objectives shared by nearly all of the local planning in the STH 26 study area is the goal of enhanced economic development and providing adequate transportation infrastructure to link business and industrial sites in the area to the regional highway system. Most of the communities in the region have developed planned industrial or business parks. New industries and businesses, as well as expansions of existing businesses are encouraged to locate in these planned park settings.

Another important aspect of economic development planning in the region is maintaining efficient transportation routes from the various business and industrial parks to the Interstate Highway system. Currently designated truck routes on STH 26 go through the eastern portion of Milton, and the central portions of Jefferson and Watertown. Improving route efficiencies and decreasing travel times between communities on STH 26 and the Interstate Highway system is a clear benefit derived from highway improvement.

All of the alternative STH 26 routes have been designed to provide good access to both existing and planned industrial and business parks in Ft. Atkinson, Jefferson, and Johnson Creek. Highway improvements will provide more efficient intercity movement. These improvements will help to facilitate the movement of industrial materials and products, enhancing the economic viability of the region's industrial and business sectors.

Communities in the STH 26 study area favor alternatives that provide direct access to industrial sites and provide alternative truck routes that would reduce through-town truck traffic. Industries are seeking

improvements that would provide the most direct and least congested access to the regional highways and the Interstate system. Some alternatives directly impact industrial sites by using land intended for industrial development.

4.1.6.1 South Segment

The No-Build Alternative would retain the existing truck routes on Janesville Road and John Paul Road. Industrial traffic from the Southeast Industrial Park would continue to be routed through the central portion of the community.

Both Alternatives S2 and S3, which bypass around the southeast side of Milton would provide equally good access to the planned industrial and business park expansion area on the City's southeast side, avoiding congestion on the existing STH 26 through Milton. This traffic could avoid congestion on the existing STH 26 through the east side business district and neighborhoods.

Existing industries located on the west side of the City would continue to access Interstate Highway 90 via either John Paul Road and the existing STH 26 interchange or via STH 59. Access to Interstate 94 would be via John Paul Road to STH 26 north of the City. Travel times to Interstate Highway 94 would be reduced because of the bypasses around Fort Atkinson and Jefferson and the four-lane highway improvements through the Village of Johnson Creek.

4.1.6.2 Central Segment

The No-Build Alternative would fail to address the problem of routing traffic through the central part of the City. Congestion on Main Street through the downtown area currently impacts industry in the area. Continuing routing the industrial traffic through the central part of the City would ultimately impact the City's ability to retain existing business and attract new business to the area.

Most of the planned general and light industrial expansion in the City of Jefferson will be occurring in the industrial parks planned for the northeast side of the City. Junction Road will be the primary internal arterial serving the industrial district. All of the proposed Build Alternatives would provide enhanced access to the planned general and light industrial parks on the northeast side of the City. Alternatives C1, C2, C2(a), C2(b), and C3 all have planned interchanges near Jahn Lane on the north side. Alternative C4 has an interchange at Junction Road.

Existing industries on the south side of the City would most likely access the alternative bypass routes at the south interchange. The travel times to Interstate Highway 90 would be roughly equivalent for each build alternative.

4.1.6.3 North Segment

The No-Build Alternative would continue to route both through-traffic and industrial traffic on Church Street through the central part of the City. Failure to improve the STH 26 route through Watertown would ultimately impede Watertown's ability to retain existing business and attract new businesses to the community.

In the North Segment, most of the planned business and industrial growth will occur on the west and south sides of the City, although there are scattered industries located throughout the central portion of the City, primarily along the Union Pacific Railroad corridor.

Alternative N1 improves access to existing and planned industrial sites on the west side of the City via the interchange with STH 19. This is one of the primary reasons that the City has approved a Resolution supporting a west side bypass (see letter in Appendix A).

Alternative N2 would improve access to existing industrial sites on the south and east sides of the City via the south interchange and the east interchange at STH 16. Alternative N2 provides very little benefits to the planned west side industrial district, where most of the industrial expansion will occur.

4.1.7 Residential and Neighborhood Impacts

Residential neighborhoods can be impacted by highway improvements in a variety of ways. The most direct impact can be the relocation of homes through acquisition to build the roadway. Other direct impacts include noise and other nuisances, loss of property value, loss of direct access, and pedestrian safety. Indirect impacts can be either positive or negative and may include impacts on the long-range attractiveness of areas for housing due either to improved access or impacts associated with the roadways and their proximity to housing.

Potential impacts to planned future residential neighborhoods can be mitigated by careful neighborhood planning before construction of either residential developments or the highway.

4.1.7.1 South Segment

Most of the residential neighborhood impacts in the South Segment would occur in the eastern and northeastern parts of the City of Milton.

The No-Build Alternative would continue to direct increasingly heavy volumes of traffic on Janesville Road through the residential neighborhoods in the eastern portion of the City of Milton. This could lead to reduced property values near the road and increased nuisances such as noise and light. On the positive side, the No-Build Alternative would not result in relocations of residences, divide the proposed north side residential neighborhood or create the anticipated noise and other nuisance impacts to the rural residential neighborhood northeast of the City.

Alternatives S2, S3, and the No-Build Alternative begin immediately north of the Interstate 90 interchange on the north side of the City of Janesville and continue to the south side of the City of Milton along existing STH 26. WisDOT expanded this section of STH 26 to four lanes in 1999. Access to the surrounding neighborhoods is currently via at-grade intersections at Rotamer Road, McCormick Drive, Bingham Road, Valleyview Drive and Town Hall Road. WisDOT is studying access management for this section of roadway with affected units of government, which could impact neighborhoods on the northeast side of the City of Janesville.

No additional residential relocations are required for the section of road between Janesville and the south side of Milton.

In the City of Milton, both Alternatives S2 and S3 route the highway on a bypass located approximately 3,500 feet (1,070 meters) east of the existing STH 26 corridor on Janesville Road. The central neighborhoods on the east side of the City would benefit from the relocated roadway.

Alternatives S2 swings northwesterly across the existing STH 26 corridor and crosses through the planned residential district on the north side of the City. The City is concerned that routing the highway through this future neighborhood area will impact future residents of the City and create a traffic barrier in the path of new development.

Alternative S2 would require the relocation of 47 residences. The residential relocations consist of 2 and 3-bedroom single-family homes and five 8-unit apartment buildings. Forty of the 47 residential relocations are apartment residences.

Alternative S3 continues northward east of the existing STH 26 corridor (Janesville Road). The route of Alternative S3 passes through the Reserve subdivision and near the Oak Ridge Estates and several other clusters of rural residences near the two golf courses on the northeast side of the City. Town of Milton officials have submitted a letter supporting Alternative S2 because of the potential impacts to the rural residences and subdivided land northeast of Milton (see Appendix A).

Alternative S3 requires the relocation of 11 residences. The residential relocations consist of 2 and 3 bedroom single-family homes. Four of these residential relocations come from a new rural subdivision called "The Reserve" subdivision, northeast of Milton.

4.1.7.2 Central Segment

In the Central Segment, most of the residential neighborhood impacts are in the rural areas outside the City of Jefferson. There are significant clusters of housing on the east side of the Rock River southeast of the City of Jefferson and a built-up rural neighborhood on the north side of the City of Jefferson near the intersection of Junction Road and STH 26. Most of the rural residences are on the west side of the existing STH 26 corridor.

The No-Build Alternative would require no residential relocations, but continuing traffic through the central part of the City of Jefferson would impact several neighborhoods in the City. This traffic has depressed residential property values along Main Street and contributes to the overall decline of housing in the central part of the City. The continuation of truck and through-traffic on Main Street would add to the current barrier to efficient pedestrian circulation, separating several residential districts from their closest schools, parks, and other neighborhood facilities.

Alternative C1 would require 9 residential relocations. Most of the residential neighborhood impacts would be in the vicinity of the north interchange.

Alternative C2 would lead to 5 residence relocations. Similar to Alternative C1, most of the residential neighborhood impacts would in the rural residential area north of the City of Jefferson. Alternative C2(a) and C2(b) would require 5 and 10 residential relocations, respectively.

Alternatives C1, C2, C2(a), and C2(b) would cross the Jefferson County Farm Property. The highway would affect the residential neighborhood proposed for the area. The concept development plan for the Jefferson County Farm Property, if it is approved for implementation, would need to be revised if any of these alternatives were selected. Alternatives C1 and C2 have different alignment (and interchange) locations through the Jefferson County Farm Property between the north Ft. Atkinson bypass interchange (Business 26) and CTH W. The two alignments are interchangeable with each other. Alternatives C2, C2(a), and C2(b) each have a different alignment location between CTH W and CTH J through the Jefferson County Farm Property.

Alternative C3 would require 13 residence relocations (Table 4.1.8). Most of the residential neighborhood impact would be to the rural residential neighborhood along the east side of the Rock River southeast of the City of Jefferson. Alternative C4 would require 6 residential relocations.

4.1.7.3 North Segment

Residential impacts in the North Segment would occur primarily in the rural residential neighborhoods on the outskirts of Watertown.

While the No-Build Alternative would not require any residential relocations, the continuation of the STH 26 corridor along Church Street would impact several central City neighborhoods by continuing to route heavy truck traffic and through-traffic on City streets. The existing route through the City depresses property values and contributes to the overall decline of several central city neighborhoods. The highway forms a major barrier for pedestrians between residential neighborhoods and nearby parks and schools.

Alternative N1 would impact individual rural residences along CTH Y, CTH A, Horseshoe Road, and CTH T where grade separation structures would be constructed. There would be 19 residential relocations.

Alternative N2 would impact rural residential neighborhoods along CTH X and CTH E and residences on both sides of the Rock River southeast of the City of Watertown. There would be relatively little neighborhood impact along the section of Alternative N2 that utilizes the existing portion of STH 16 on the northeast side of the City of Watertown. Alternative N2 would require a total of 24 residential relocations.

Both Alternatives N1 and N2 would potentially impact planned residential neighborhoods within the City's long-range urban service area. These impacts would be lessened by careful neighborhood planning. The City of Watertown considers Alternative N1 to have more beneficial neighborhood impacts since it improves access to several planned west side mixed-use neighborhoods.

4.1.8 Residential and Business Relocations

A residential and business relocation evaluation was done for the Build Alternatives to determine:

1. The approximate number of households, farms, and/or businesses that may be relocated by the project;
2. The probable availability of decent, safe, and sanitary replacement housing within the financial means of the households that may be affected by the project; and
3. An estimate of the possible total relocation assistance costs.

The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, provides for payment of just compensation for property acquired for a federal aid project. This includes a relocation program to assist displaced persons and businesses in finding comparable housing or commercial facilities.

A Conceptual Stage Relocation Plan was prepared for this project and a copy is attached in Appendix D. The results of the plan show that there do not appear to be any unusual circumstances regarding the residential or business relocations. This project will have minimal effect on the overall communities after the relocation process has been completed.

Before the initiation of any property acquisition activities, members of the WisDOT Real Estate Section will contact the property owners and tenants to explain the details of the acquisition process and Wisconsin's Eminent Domain Law under Wisconsin Statutes 32.05 and 32.19. Each relocatee will be interviewed by the relocation agent for the purpose of determining their needs, desires, and possible problems. One or more professional appraisers will inspect any property acquired. Property owners may accompany the appraiser during the inspection. Provisions for independent property owner appraisals are also provided. Based on the appraisal(s) made, the value of the property would be determined and that amount offered to the owner.

In addition to providing for payment of "fair market value" for property acquired, additional benefits are available to eligible displaced persons required to relocate from their residence, business, or farm. These additional benefits include supplemental replacement costs, moving expenses, increased rental or mortgage payments, closing costs, and other valid relocation costs. Supplemental replacement cost is the additional cost above the "fair market value" of the property to find comparable replacement property (home or business) in the area. All the above resources are available to all displacees without discrimination.

With the exception of the time during construction, no substantial disruption effects should exist. Since all relocatees are expected to remain in the area, only the actual business and residential relocatees will be affected.

Real estate acquisition for the STH 26 Corridor project between Janesville and Watertown would typically take place one to two years prior to construction. Because of the long-term construction schedule (2008 or beyond), WisDOT may consider requests for early acquisition. To the extent practicable, properties involving relocations may also be acquired as they become available, and in view of replacement housing availability. There are no known concurrent city, state, or county relocation projects underway or planned in this area that would affect the availability of either business or residential replacement sites.

Neither minority status, age, nor income level indicate the need for special relocation consideration or services. If unusual problems were to arise, WisDOT relocation personnel would be available to provide the appropriate relocation services.

Table 4.1.8 documents the associated relocations per alternative. The estimated residential and business displacements are based on preliminary information regarding roadway width and location relative to abutting properties. As more detailed geometric and profile data become available during the project's engineering phase, the actual number of displacements may change. There will be no residential or business relocations under the No-Build Alternative.

| TABLE 4.1.8 SUMMARY OF RELOCATIONS | | | |
|---------------------------------------|-------------|----------|-------|
| ALTERNATIVE | RELOCATIONS | | TOTAL |
| | Residential | Business | |
| S2 | 47 | 2 | 49 |
| S3 | 11 | 2 | 13 |
| C1 | 9 | 2 | 11 |
| C2 | 5 | 3 | 8 |
| C2(a) | 5 | 4 | 9 |
| C2(b) | 10 | 5 | 15 |
| C3 | 13 | 1 | 14 |
| C4 | 6 | 0 | 6 |
| N1 | 19 | 7 | 26 |
| N2 | 24 | 6 | 30 |

Table 4.1.8.4-1 lists the adequate replacement housing available in the project area in the year 2000. The maximum estimated number of single-family homes to be displaced along the entire corridor is 46. As shown in Table 4.1.8.4-2, the number of available single-family homes is greater than the maximum number of displacements along the entire corridor for the typical price ranges. An adequate supply of housing appears to be currently available.

Tables 4.1.8.4-3 and 4.1.8.4-4 list the available apartment and housing rental units. It appears that comparable replacement rental units will be available during the acquisition period for this project. Alternative S2 is the only alternative that impacts rental units, with five 8-unit rental apartment complexes affected. The rental apartments are two-bedroom apartments with rent approximately \$450 per month. Currently, 53 two-bedroom apartments are available in the similar price range to accommodate the 40 rental tenants.

The number and type of residential and business relocations are described below for each of the project alternatives. The number of bedrooms for the residential relocations is only an estimate at this time, as no interior inspections were conducted. The price range of single-family homes to be relocated represents the typical price range of homes in the area in the year 2000, as no individual appraisals were conducted. The locations of the relocations are shown in Exhibit 5 for the south segment, Exhibit 6 for the central segment, and Exhibit 7 for the north segment.

4.1.8.1 South Segment

Figure 4.1.8.1 shows the relationship between the number of residential and business relocations for each of the alternatives in the South Segment.

Alternative S2

Forty-seven residential and two business relocations would be required for Alternative S2. These relocations are shown on Exhibit 5, Sheets 2 through 4.

Seven of these relocations are single-family homes consisting primarily of 2 and 3-bedroom homes in the typical price range of the area ranging from \$70,000 to \$160,000. Forty of the residential relocations are located in five 8-unit rental apartment complexes. The rental apartments are two-bedroom apartments with rent approximately \$450 per month.

There are a total of two businesses that would be affected by Alternative S2: a tool manufacturing shop and a supper club.

The tool manufacturing shop is located on the east end of the City of Milton's industrial park on STH 59. The property is zoned industrial. The shop employs 18 full-time employees and 1 part-time employee. The city has recently acquired property immediately south of STH 59 for expansion of their existing industrial park, and there would be several sites available within the industrial park for relocation of the shop.

The supper club is located at the intersection of STH 26 and CTH N in the Town of Milton. The club is situated in a rural setting, and employs 4 full-time and 8 part-time employees. The owner indicates that he would like to relocate in the same area since many of his patrons are from a localized area surrounding the club that also includes the resort areas of Lake Koshkonong. Currently, there is a vacant supper club tavern west on CTH N and along Lake Koshkonong that would be a suitable relocation site. In addition, there are at least 2 other commercial sites in the area.

Both of these business relocations would also be required under Alternative S3.

Alternative S3

Eleven residential and two business relocations would be required for Alternative S3. These relocations are shown on Exhibit 5, Sheets 2 through 4.

The eleven residential relocations are owner-occupied single-family homes. Four of these residential relocations come from a new rural subdivision called "The Reserve" subdivision, northeast of Milton. The homes in this new subdivision represent 3 or more bedroom owner-

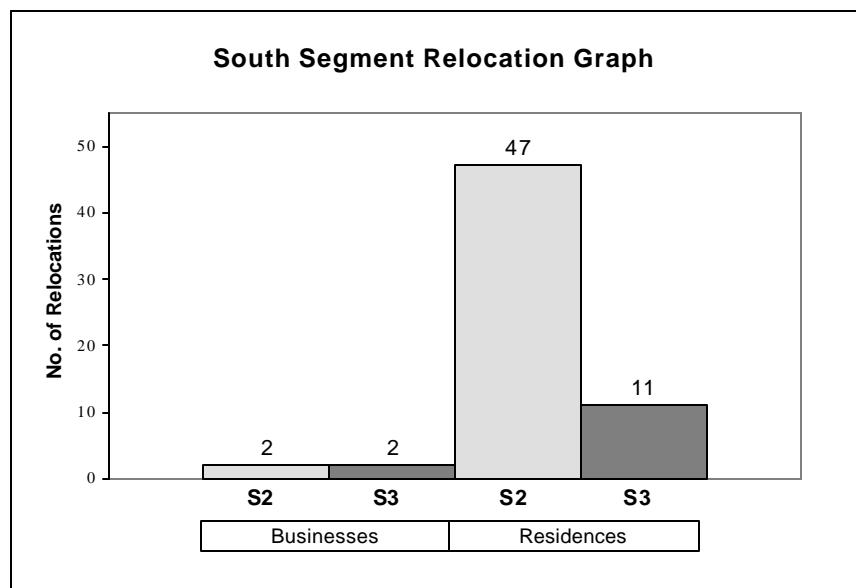


Figure 4.1.8.1 South Segment Relocation Graph

occupied single-family residences with above average home prices for the area ranging from \$250,000 to \$350,000. The other seven residential relocations represent 2 and 3-bedroom single-family owner-occupied houses in typical price ranges for the area ranging from \$70,000 to \$160,000.

Alternative S3 would affect the same two businesses as described above under Alternative S2.

4.1.8.2 Central Segment

Figure 4.1.8.2 shows the relationship between the number of residential and business relocations for each of the alternatives in the Central Segment.

Alternative C1

Nine residential and two business relocations would be required for Alternative C1. These relocations are shown on Exhibit 6, Sheets 3 through 8.

The nine residential relocations represent 2 and 3-bedroom single-family owner-occupied houses in the typical price range for the area ranging from \$65,000 to \$170,000.

There are a total of two businesses that will be affected by Alternative C1: a concrete plant and a tavern.

The concrete plant is located at the intersection of STH 89 (south) and USH 18 in the Town of Jefferson just west of the City of Jefferson. The plant is one of several concrete plants owned by the same company in the area, and employs 14 full-time employees and 1 part-time employee. There is vacant land adjacent to the concrete plant that would be suitable for relocation.

The tavern is located at the intersection of STH 26 and Junction Road in the Town of Aztalan just north of the City of Jefferson. The tavern is in a rural setting, and employs 3 full-time and 5 part-time employees. The owner has recently acquired 7 acres nearby on which he plans to relocate and expand their business.

Alternative C2

Five residential and three business relocations would be required for Alternative C2. These relocations are shown on Exhibit 6, Sheets 3 through 8.

The five residential relocations represent 2 and 3-bedroom single-family owner-occupied houses in typical price ranges for the area ranging from \$65,000 to \$170,000.

There are a total of three businesses that would be affected by Alternative C2: a flooring store, a used car sales lot, and a tavern.

The flooring store is located on STH 26 in the Town of Jefferson about one-quarter mile south of the City of Jefferson. The owner-occupied store employs 1 full-time employee and 1 part-time employee. There are 3 to 4 vacant parcels of land zoned commercial in the area that would be suitable sites for relocation.

The used car sales lot is adjacent to the flooring store on STH 26 described above. The owner-occupied business employs 2 full-time and 2 part-time employees. There are 3 to 4 vacant parcels of land zoned commercial in the area that would be suitable sites for relocation.

The tavern is described above under Alternative C1.

Modification Alternative C2(a)

The modification of Alternative C2 west of the City of Jefferson, referred to as C2(a), would have a total of five residential and four business relocations.

The five residential relocations represent 2 and 3-bedroom single-family owner-occupied houses in typical price ranges for the area ranging from \$65,000 to \$170,000.

Alternative C2(a) would affect four businesses: a flooring store, a used car sales lot, a tavern, and a farm implement lot.

The flooring store, used car sales lot, and the tavern are described above under Alternative C2.

The farm implement lot is located in the Town of Jefferson on USH 18 just west of the City of Jefferson. The owner-occupied business employs 5 full-time and 1 part-time employees. The business conducts primarily repair services. The owner has vacant land adjacent to the business that would be a suitable site for relocation.

Modification Alternative C2(b)

The modification of Alternative C2 west of the City of Jefferson, referred to as C2(b), would have a total of ten residential and five business relocations.

The ten residential relocations represent 2 and 3-bedroom single-family owner-occupied houses in typical price ranges for the area ranging from \$65,000 to \$170,000.

Alternative C2(b), a modification of Alternative C2, would affect five businesses: a flooring store, a used car sales lot, a tavern, a church, and a resale shop.

The flooring store, used car sales lot, and the tavern are described above under Alternative C2.

The church is located on USH 18 in the City of Jefferson. The non-profit business employs 1 full-time and 2 part-time employees. There are 4 to 5 vacant parcels of land of adequate size in the surrounding area that would be suitable as relocation sites.

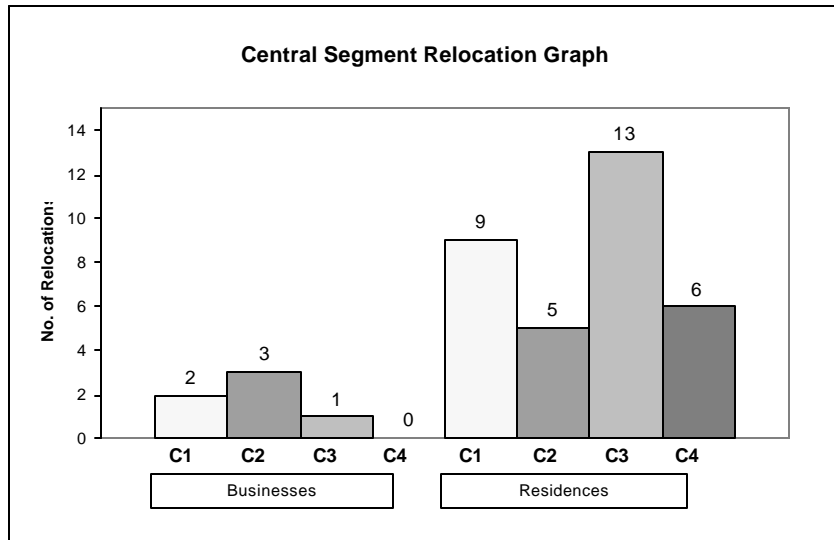
The resale shop is located on USH 18 in the City of Jefferson. The shop employs 2 full-time and 1 part-time employees. There are 2 to 3 vacant buildings in the surrounding area that would be suitable relocation sites.

Alternative C3

Eleven residential relocations represent 2 and 3-bedroom single-family owner-occupied houses in typical price ranges for the area ranging from \$65,000 to \$170,000 and two relocations are group homes owned by St. Coletta of Wisconsin.

There is a total of one business that would be affected by Alternative C3: a greenhouse.

The greenhouse is located on the north side of USH 18 just east of the City of Jefferson. The greenhouse employs 7 full-time and 10 part-time employees. The relocation of the greenhouse may need special consideration relating to the location of the business. This business is owned and operated by St. Coletta of Wisconsin, an adult service agency that provides for the needs (schooling, medical care, training, work, etc.) of adult developmentally disabled individuals, and some of the assistants are St. Coletta residents. The greenhouse would need to be relocated on or near the St. Coletta property in order to remain in close proximity to its residents. St. Coletta officials have indicated they have property available for relocation.



Note: Modification C2(a) has 4 business and 5 residential relocations.
Modification C2(b) has 5 business and 10 residential relocations.

Figure 4.1.8.2 Central Segment Relocation Graph

Alternative C4

Six residential and no business relocations would be required for Alternative C4. These relocations are shown on Exhibit 6, Sheets 3 through 8.

The six residential relocations represent 2 and 3-bedroom single-family owner-occupied houses in typical price ranges for the area ranging from \$65,000 to \$170,000.

4.1.8.3 North Segment

Figure 4.1.8.3 shows the relationship between the number of residential and business relocations for each of the alternatives in the North Segment.

Alternative N1

Nineteen residential and seven business relocations would be required for Alternative N1. These relocations are shown on Exhibit 7, Sheets 1 through 9.

Eighteen of the residential relocations represent 2 and 3-bedroom single-family owner-occupied houses in typical price ranges for the area ranging from \$75,000 to \$165,000. One residential relocation represents a 3 or more bedroom single-family home with above average price range for the area ranging from \$250,000 to \$350,000. Five of these relocations would also be required under Alternative N2.

There are a total of seven businesses that would be affected by Alternative N1: a monument company, a truck maintenance shop, an automobile repair shop, a bar fixture store, an electrical components shop, a motel, and a heating and ventilation company.

The monument company (grave markers) is located in the Town of Watertown on STH 26 about one-quarter mile south of the City of Watertown. This location is one of several sites owned by the company in the Midwest, and is the only site that is involved with the production of the

monuments. The company employs 10 full-time and 10 part-time employees at this site. The owner would like to stay in the general area, and is currently examining property south of the existing site to which he plans to relocate.

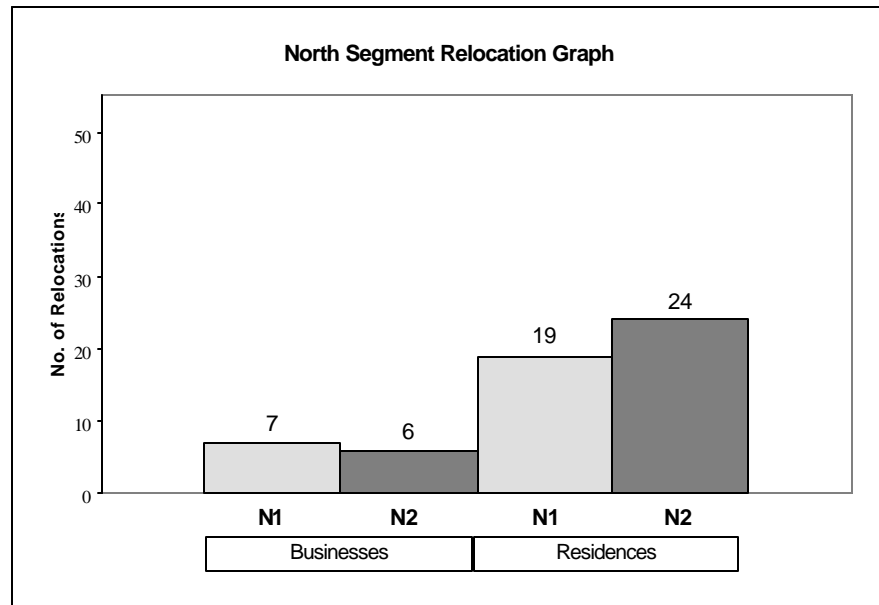


Figure 4.1.8.3 North Segment Relocation Graph

The truck maintenance shop is located in the Town of Watertown on CTH Y south of the City of Watertown. This shop is a small maintenance and repair shop for trucks owned by a recycling company whose main facility is located in the City of Watertown (not affected by this project). The shop employs 1 full-time employee and 1 part-time employee. There are 3 to 4 vacant parcels of land in the area suitable for relocation sites.

The used car shop is located on Church Street (STH 26) in the City of Watertown. The shop employs 2 part-time employees. The small shop repairs older cars (generally one or two at a time) for resale. There are 4 to 5 parcels of land in the city suitable as relocation sites.

The bar fixture store is located on Church Street (STH 26) in the City of Watertown. The small store employs 1 full-time employee and 1 part-time employee. There is no inventory located at the site, and all orders are special orders delivered directly to a job site. There are no special requirements or needs for relocation of the business. There are 4 to 5 parcels of land in the city suitable as relocation sites.

The electrical components shop is located on Church Street (STH 26) in the City of Watertown. The shop has 1 full-time employee. This business is reducing its inventory and is expected to close down operations in the near future.

The heating and ventilation company is located on Church Street (STH 26) in the City of Watertown. The company has 8 full-time employees. The site is used for outside storage of trucks and equipment only, and no repairs are conducted at this location. The relocation of the business will require adequate

outside storage space requirements. There are several vacant parcels in the city's industrial park that are suitable as relocation sites.

The motel is located in the Town of Emmet on STH 26 near the interchange of STH 16 just north of the City of Watertown. The motel has 2 full-time employees. The owners have indicated they own land adjacent to the motel and plan to relocate their business to that location.

Alternative N2

Twenty-four residential and six business relocations would be required for Alternative N2. These relocations are shown on Exhibit 7, Sheets 1 through 9.

The twenty-four residential relocations represent 2 and 3-bedroom single-family owner-occupied houses in typical price ranges for the area ranging from \$75,000 to \$165,000. Five of these relocations are also required under Alternative N1.

There are a total of six businesses that will be affected by Alternative N2: a monument company, two motels, a warehouse storage business, a tavern, and a molding company.

The monument company is described above under Alternative N1.

One motel is described above under Alternative N1.

The second motel is located along STH 16 on the northeast side of the City of Watertown. The motel employs 1 full-time and 3 part-time employees. The owners have indicated they would like to get out of the motel business, and it is unlikely they would want to relocate to another site.

The warehouse storage business is located along STH 16 on the northeast side of the City of Watertown. The business is a storage building for a local bicycle maker, and employs 1 full-time employee. There are several vacant parcels of land in the city's industrial park suitable as relocation sites.

The tavern is located in the Town of Emmet on STH 26 just south of Kiln Road. The tavern is in a rural setting, and employs 1 full-time and 2 part-time employees. The owner would like to stay north of the City of Watertown in a rural setting. There are 1-2 vacant parcels of land north of the city zoned commercial that are suitable relocation sites.

The molding company is located in the Town of Emmet on STH 26 just south of Kiln Road. The company manufactures molding products at a separate site in the City of Watertown. This specific site is one of several storage shed sites used by the company as a storage facility for their products, and has no employees on site. There are several vacant parcels of land in the city's industrial park suitable as relocation sites.

4.1.8.4 Available Replacement Housing

Single-Family Houses

A survey of comparable replacement housing was made for each of the three project segments to determine whether or not replacement housing is available for the persons to be displaced. All residential properties were assumed to be owner occupied unless identified as rental property or apartments.

Information was based on data contained in classified advertisements and on the internet along and surrounding the STH 26 corridor. Residences that are part of farming operations would likely be re-established on the farmstead.

Table 4.1.8.4-1 lists the adequate replacement housing available in the project area in the year 2000. The maximum estimated number of single-family homes to be displaced along the entire corridor is 46. As shown below in Table 4.1.8.4-2, the number of available single-family homes is greater than the maximum number of displacements along the entire corridor for the typical price ranges. An adequate supply of housing appears to be currently available.

| TABLE 4.1.8.4-1 AVAILABLE REPLACEMENT HOUSING Single -Family Homes For Sale (April 2000) | | | |
|---|-------------------|-------------------|-------------------|
| Price Range | 2 Bedrooms | 3 Bedrooms | 4 Bedrooms |
| \$60,000 – \$69,999 | 6 | 2 | 0 |
| \$70,000 – \$79,999 | 9 | 3 | 0 |
| \$80,000 – \$89,999 | 6 | 4 | 0 |
| \$90,000 – \$99,999 | 1 | 9 | 0 |
| \$100,000 – \$109,999 | 4 | 6 | 1 |
| \$110,000 – \$119,999 | 6 | 19 | 2 |
| \$120,000 – \$150,000 | 4 | 13 | 9 |
| \$150,000 - \$180,000 | 10 | 40 | 30 |
| \$180,000 - \$400,000 | 0 | 24 | 16 |
| Totals | 46 | 120 | 58 |

Source: Classified Advertisements and Multiple Listing Service

| TABLE 4.1.8.4-2 MAXIMUM ESTIMATED NUMBER OF DISPLACEMENTS VS. AVAILABLE REPLACEMENT HOUSING Single -Family Homes (April 2000) | | |
|--|--|---|
| Price Range | Maximum Number of Estimated Displacements for Project | Available Replacement 2 to 4-Bedroom Housing |
| \$60,000 – \$180,000 | 41 | 184 |
| \$180,000 – \$400,000 | 5 | 40 |

Rental Units and Group Homes

Houses and apartments in the study area generally rent from a low of \$200 to a high of \$1,000 per month in the year 2000. The average rent for a two-bedroom or three-bedroom rental unit is \$600 and \$700 per month, respectively. Tables 4.1.8.4-3 and 4.1.8.4-4 list the available apartment and housing rental units.

It appears that comparable replacement rental units will be available during the acquisition period for this project. Along Alternative S2, five 8-unit rental apartment complexes would be impacted. The rental

apartments are two-bedroom apartments with rent approximately \$450 per month. Currently, 53 two-bedroom apartments are available in the similar price range to accommodate the 40 rental tenants.

Along Alternative C3 east of Jefferson, two group homes owned by St. Coletta of Wisconsin would have to be relocated. Since it is unlikely that these individuals could be relocated to comparable housing on the St. Coletta property, it is anticipated that two new group homes would have to be constructed. At this time it appears that property is available on the St. Coletta campus for the construction of these group homes.

| TABLE 4.1.8.4-3 AVAILABLE APARTMENT RENTAL UNITS | | |
|---|-------------------|-------------------|
| Price Range | 2 Bedrooms | 3 Bedrooms |
| \$200 - \$400 | 3 | 0 |
| \$400 - \$600 | 53 | 24 |
| \$600 - \$800 | 54 | 14 |
| \$800 - \$1000 | 18 | 11 |
| Totals | 128 | 49 |

| TABLE 4.1.8.4-4 AVAILABLE HOUSE RENTAL UNITS | | |
|---|-------------------|-------------------|
| Price Range | 2 Bedrooms | 3 Bedrooms |
| \$200 - \$400 | 11 | 1 |
| \$400 - \$600 | 197 | 8 |
| \$600 - \$800 | 197 | 66 |
| \$800 - \$1000 | 57 | 38 |
| Totals | 462 | 113 |

Source: Classified Advertisements

4.1.8.5 Available Replacement Businesses

Business displacements are estimated to occur with the project alternatives as shown in Sections 4.1.8.1, 4.1.8.2, and 4.1.8.3. This information was based upon a field survey and personal interviews with the businesses potentially affected by an alternative. Currently in the year 2000, adequate space for business relocations is available. With the current growth and development within the study area, it appears that replacement of businesses would also be available during the acquisition period. The general effect of the business relocations on the local economy is expected to be minimal as most of the businesses would likely relocate and become reestablished in the community.

The relocation of the greenhouse, located east of the City of Jefferson along Alternative C3, may need special consideration relating to the location of the business. This business is owned and operated by St. Coletta of Wisconsin and some of the assistants are St. Coletta residents. The greenhouse would need to be relocated on or near the St. Coletta property in order to remain in close proximity to the residents of

St. Coletta. The remaining business displacements for the build alternatives have no known age, ethnic, minority, or handicapped characteristics that would require special consideration.

4.1.8.6 Summary of Relocation Costs

Table 4.1.8.6 summarizes the estimated residential and business relocation costs presented in the Conceptual Stage Relocation Plan in Appendix D.

| TABLE 4.1.8.6 SUMMARY OF RELOCATION COSTS (2000 Dollars) | | | |
|--|------------------|---------------|-------------|
| Alternative | Residential Cost | Business Cost | Total Cost |
| S2 | \$565,350 | \$98,000 | \$663,350 |
| S3 | \$319,550 | \$98,000 | \$417,550 |
| C1 | \$261,450 | \$203,000 | \$464,450 |
| C2 | \$145,250 | \$115,700 | \$260,950 |
| C2(a) | \$145,250 | \$150,700 | \$295,950 |
| C2(b) | \$290,500 | \$199,900 | \$490,400 |
| C3 | \$327,650 | \$58,000 | \$385,650 |
| C4 | \$174,300 | \$0 | \$174,300 |
| N1 | \$551,950 | \$362,700 | \$914,650 |
| N2 | \$697,200 | \$359,000 | \$1,056,200 |

Note: The above costs do not include acquisition cost.

4.1.9 Environmental Justice

On February 11, 1994, President Clinton issued Executive Order on Environmental Justice 12898. The Executive Order requires all federal agencies to address the impact of their programs with respect to environmental justice. The Executive Order states that, to the extent practicable and permitted by law, neither minority nor low-income populations may receive disproportionately high and adverse impacts as a result of a proposed project. It also requires that representatives of any low-income or minority populations that could be affected by the project in the community be given the opportunity to be included in the impact assessment and public involvement process.

There are no known impacts to low-income or minority populations for this project. Alternatives have been developed to avoid existing neighborhoods and business centers. Avoidance of these areas effectively limited negative impacts to the small percentage of dispersed low-income and minority populations that exist.

The public involvement process described in Section VII, Comments and Coordination, was inclusive of all residents and population groups in the study area and did not exclude any persons because of income, race, color, religion, national origin, sex, age or handicap.

4.1.9.1 Racial and Ethnic Minority Impacts

Based on the 1990 U.S. Census, the racial and ethnic composition of the entire STH 26 study area is 97.6 percent Non-Hispanic White, 1.3 percent Hispanic (all races), 0.5 percent Asian or Pacific Islander, 0.4 percent Black, and 0.3 percent American Indian (see Table 3.2.2-2 and Figure 3.2.2). Interviews with local officials and staff indicate that there are no known areas having a concentration of minority populations located within the study area. There are no areas within the study area where there are any measurable differences in the potential impacts on the minority population compared to the total population.

4.1.9.2 Low-Income Household Impacts

Household income and household characteristics are similar throughout the STH 26 study area. In 1997, the per capita person income was \$19,123 in Dodge County, \$21,848 in Jefferson County, and \$22,915 in Rock County (see Table 3.2.3.2). In no jurisdictions, do the income levels deviate more than 10 percent from the County averages.

In terms of household characteristics (1990 U.S. Census data), the median value of owner-occupied housing in the total study area is \$60,100 and the median contract rent is \$297 (See Table 3.2.3.4-2). Interviews with local officials and staff indicate that there are no known areas having a concentration of low-income households located within the study area. There are no areas within the study area where there are any measurable differences in the potential impacts on the low-income population compared to the total population.

In summary, this project will not have disproportionately high and adverse impacts on either minority or low-income populations. This document is therefore in compliance with U.S. DOT and FHWA policies to determine whether a proposed project will have induced socioeconomic impacts or any other adverse impacts on minority or low-income populations; and it meets the requirements of Executive Order on Environmental Justice 12898 – “Federal Actions to Address Environmental Justice in Minority and Low-Income Populations”.

4.2 ENVIRONMENTAL AND RELATED RESOURCE IMPACTS

4.2.1 Lakes, Rivers and Streams

Stream crossing locations for the various alternatives were observed and evaluated during a field reconnaissance. The stream crossing locations were evaluated on the extent of shoreland wetlands that would be impacted, the amount of floodplain that would be impacted, the quality and stability of natural stream banks, and the type of bottom substrate. Higher ratings indicate higher levels of impact to the characteristic if this alternative were selected. Direct impacts to wetlands and floodplains are further discussed in Section 4.2.2 and 4.2.3, respectively.

No surface water lakes will be impacted by any alternative being studied.

Potential impacts to surface water resources are associated with the construction, operation, and maintenance of the proposed roadway. Potential impacts to surface water resources may result from increased siltation to streams, increased flooding, decreased wildlife and aquatic habitat, decreased water quality, and introduction of exotic species.

Surface water resources may be impacted by erosion of roadside banks, erosion of riverbanks, and stirring of sediments during construction of the proposed roadway. Siltation may increase turbidity, which may potentially impact aquatic plants by interfering with photosynthesis. Siltation may also decrease the number of fish spawning areas by adding silt to the substrate. The addition of silt to the substrate may also impact aquatic macroinvertebrates.

Bridge spans may reduce surface water habitat by shading sections of streams from direct sunlight. Habitat could also change by increasing the flow of the streams if the channel is constricted or the slope of the stream bottom is changed during construction.

Potential impacts associated with operation and maintenance of the proposed roadway may include chemical pollution from motor vehicles, which have the potential to affect the water quality, vegetation, and associated aquatic organisms. Substances include grease and petroleum products from lubricant and fuel spills or leaks, antifreeze and hydraulic fluid, and zinc, which is used as a tire filler and motor oil stabilizer.

Throughout the mid-1980s, the FHWA conducted extensive nationwide studies to determine highway runoff constituents, amounts relative to roadway types and traffic conditions, and the potential impacts to surface water resources (*Pollutant Loadings and Impacts from Highway Stormwater Runoff, Volume 1*, Federal Highway Administration, April 1990).

FHWA's research concluded that pollutants in highway runoff are not present in amounts sufficient to threaten surface or groundwater where Average Daily Traffic (ADT) volumes are below 30,000. These findings are also cited by the Environmental Protection Agency in their report: *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters*, EPA Publication 840-B-92-002, January 1993.

Table 4.2.1 lists the FHWA study results for pollutant concentrations in highway runoff for highways with ADT volumes under 30,000 and over 30,000.

| TABLE 4.2.1 | | |
|--|--|--|
| POLLUTANT CONCENTRATIONS IN HIGHWAY RUNOFF | | |
| Pollutant | Event Mean Concentration (mg/L), ADT Less Than 30,000 | Event Mean Concentration (mg/L), ADT More Than 30,000 |
| Suspended Solids | 41 | 142 |
| Lead | 0.080 | 0.400 |
| Zinc | 0.080 | 0.329 |
| Copper | 0.022 | 0.054 |
| Note: Event Mean Concentrations were derived by averaging concentrations from several storm events. | | |

In order to put the above-noted pollutant concentrations in perspective, the USEPA acute toxicity threshold levels for human health are 0.477 mg/L for lead, 0.800 mg/L for zinc, and 0.065 mg/L for copper. The values shown Table 4.2.1 are under these levels for both roadway categories.

As regards pollutant threshold levels that may cause adverse impacts to aquatic life, the FHWA concluded that:

- Pollutants in runoff for highways with less than 30,000 ADT, and without runoff abatement, will not cause adverse effects to aquatic life.
- Pollutants in runoff for highways with more than 30,000 ADT have the potential, without runoff abatement, for adversely affecting aquatic life.

Existing and projected ADT volumes in the study area are not expected to exceed 30,000 ADT in the design year. Regardless of future ADT volumes, highway runoff abatement measures would be incorporated into all of the detailed study build alternatives in accordance with Wisconsin Administrative Code Chapter TRANS 405 – Construction Site Erosion control and Stormwater Management Procedures. Specific measures would need to be developed during the project's engineering phase, based on more design detail and hydraulic data.

Deicing salts, frequently used on state highways in winter, may impact water quality by increasing the chloride levels during runoff and snowmelt. Impacts from deicing salt are associated with salt movement away from the proposed roadway via drainage ditches and toward receiving surface water resources. A WisDOT salt monitoring program, started in 1970, indicates that occasional high levels of chlorides can occur in drainage ditches and waterways due to rapid snow melt conditions. However, long-term buildup of chlorides has not been observed in the monitored waterways.

If construction equipment was previously used in infected waters and was not properly cleaned before use on current projects, exotic species, such as zebra mussels, purple loosestrife, and Eurasian water milfoil may be introduced into the surface waters. These exotic species have no natural predators in Wisconsin, so they are able to crowd out native organisms, which can alter the entire food chain.

4.2.1.1 South Segment

Alternatives S2 and S3 would use the same stream crossing of Otter Creek along the existing STH 26 alignment just south of CTH N. This is the preferred crossing location because there is already disturbance from the existing crossing. As Table 4.2.1.1 shows, there is not a large wetland area along the shoreline, the stream banks are steeply sloped in this location so the floodplain is not extensive, and the banks are not natural due to the existing highway crossing.

| TABLE 4.2.1.1 SOUTH SEGMENT STREAM CROSSINGS | | | | | |
|---|---------------|---------------------------|-------------------|----------------------|-------------------------|
| Alternative | Stream | Shoreland Wetlands | Floodplain | Natural Banks | Bottom Substrate |
| S2 and S3 | Otter Creek | Low | Low | Low | Rocky |

4.2.1.2 Central Segment

Alternatives C1, C2, C3, and C4 would use the same stream crossing location of the Rock River at Fort Atkinson. This is the preferred Rock River crossing location because it is at the same location as the recently constructed Fort Atkinson bypass. The proposed alternatives would add another lane next to the existing lane within the previously impacted bypass corridor, which would minimize impacts to shoreland wetlands, stream banks and the Rock River floodplain.

Alternatives C1, C2, C3, and C4 have four potential stream crossing locations. Alternatives C1 and C2 each cross the Crawfish River west of Jefferson at different locations and cross the Rock River north of Jefferson at the same location, while Alternatives C3 and C4 cross the Rock River south of Jefferson at the same location. The two slight modifications of Alternative C2 west of the City of Jefferson, referred to as C2(a) and C2(b), offer two different crossing locations of the Crawfish River. As presented in Table 4.2.1.2, the Alternative C1 would result in low impacts to shoreland wetlands and floodplain areas and high impacts to natural stream banks of the Crawfish River. Alternative C2 would result in medium impacts to shoreland wetlands and high impacts to floodplain areas and natural stream banks of the Crawfish River. The West Bypass Alternatives crossing of the Rock River would result in low impacts to shoreland wetlands and floodplain areas and high impacts to natural stream banks. The East Bypass Alternatives crossing location of the Rock River has low impacts to shoreland wetlands and floodplain areas, but has high impacts to natural stream banks.

| TABLE 4.2.1.2 CENTRAL SEGMENT STREAM CROSSINGS | | | | | |
|---|----------------------------|---------------------------|-------------------|----------------------|-------------------------|
| Alternative | Stream | Shoreland Wetlands | Floodplain | Natural Banks | Bottom Substrate |
| C1, C2*, C3, C4 | Rock River @ Fort Atkinson | Low | Medium | Low | Likely Muck |
| C1, C2* | Rock River @ Jefferson | Low | Low | High | Likely Muck |
| C1 | Crawfish River | Low | Low | High | Mucky |
| C2 | Crawfish River | Medium | High | High | Mucky |
| C2(a) | Crawfish River | Low | High | High | Mucky |
| C2(b) | Crawfish River | Medium | Medium | High | Mucky |
| C3, C4 | Rock River @ Jefferson | Low | Low | High | Likely Muck |

*Modifications C2(a) and C2(b) have same impacts as Alternative C2.

4.2.1.3 North Segment

The North Segment has two alternative stream crossings of the Rock River near Watertown. Alternative N1 crosses the Rock River southwest of Watertown, and Alternative N2 crosses the Rock River southeast of Watertown. As Table 4.2.1.3 shows, both alternatives will result in medium impacts to shoreland wetlands and natural stream banks. Alternative N1 will result in medium impacts to the floodplain, while Alternative N2 will result in low floodplain impacts.

| TABLE 4.2.1.3 NORTH SEGMENT STREAM CROSSINGS | | | | | |
|---|---------------|---------------------------|-------------------|----------------------|-------------------------|
| Alternative | Stream | Shoreland Wetlands | Floodplain | Natural Banks | Bottom Substrate |
| N1 | Rock River | Medium | Medium | Medium | Likely Muck |
| N2 | Rock River | Medium | Low | Medium | Likely Muck |

4.2.2 Wetlands

4.2.2.1 General

The alternatives will potentially *directly* impact wetlands by converting them to roadways. The alternatives may also *indirectly* affect wetlands by altering water depths and velocities within the floodplain and wetland areas during flood events. The project will potentially impact the water quality function of wetland areas by reducing the surface area of the wetland. The wetland shoreline protection function may be slightly reduced, allowing the stream banks to erode more quickly. The project may directly impact the groundwater recharge or discharge ability of the wetland areas. The wetland areas directly impacted by the project will no longer serve an aesthetic function.

Impacts to wetlands may indirectly impact adjacent wetlands by converting them, increasing or decreasing runoff to them, or by constricting channels upgradient or downgradient from such wetlands. Such impacts could change the frequency and duration of the inundation in the wetlands, which may in turn impact the vegetative community and the wildlife that currently utilize the wetlands. If the present vegetative community cannot compete in the altered wetland, it may be replaced by a less desirable, invasive vegetative community, such as a monotypical stand of cattails, reed canary grass, or purple loosestrife, which has less wildlife value.

4.2.2.2 South Segment

As shown in Table 4.2.2.2, Alternative S2 will have 5.7 acres (2.2 ha) of wetland impacts at 4 wetland areas (Figure 4.2.2.2) that were assessed to have low to high functional value. Alternative S3 would impact 5 wetland areas with approximately 6.7 acres (2.6 ha) of impacted wetland that was assessed to have low to high functional value.

| TABLE 4.2.2.2 SOUTH SEGMENT WETLAND IMPACTS | | | | | | | |
|--|-------------|-------------------|--------------|----------|---------------------------|----------|-------------------|
| Wetland ID | Station No. | Wetland Type | Wetland Size | | Approximate Area Impacted | | Functional Values |
| | | | Acres | Hectares | Acres | Hectares | |
| Alternative S2 | | | | | | | |
| W-2 | 490 | Wet Meadow | 1350.0 | 546.3 | 1.8 | 0.7 | Low-Medium |
| W-3 | 560 | Shallow Marsh | 13.8 | 5.6 | 2.3 | 0.9 | Low-High |
| W-4 | 600 | Wet Meadow | 112.1 | 45.4 | 0.6 | 0.2 | Low-Medium |
| W-5 | 750 | Floodplain Forest | 11.0 | 4.5 | 1 | 0.4 | Low-Medium |
| | | Total | 1486.9 | 601.8 | 5.7 | 2.2 | |
| Alternative S3 | | | | | | | |
| W-1 | 380 | Wet Meadow | 1.0 | 0.4 | 1.0 | 0.4 | Low |
| W-2 | 490 | Wet Meadow | 1350.0 | 546.3 | 1.8 | 0.7 | Low-Medium |
| W-3 | 560 | Shallow Marsh | 13.8 | 5.6 | 2.3 | 0.9 | Low-High |
| W-4 | 600 | Wet Meadow | 112.1 | 45.4 | 0.6 | 0.2 | Low-Medium |
| W-5 | 750 | Floodplain Forest | 11.0 | 4.5 | 1 | 0.4 | Low-Medium |
| | | Total | 1487.9 | 602.2 | 6.7 | 2.6 | |

4.2.2.3 Central Segment

As shown in Table 4.2.2.3 and Figure 4.2.2.3, Alternative C1 would impact seven wetland areas with approximately 23.6 acres (9.6 ha) of wetland, including 7.9 acres (3.2 ha) of floodplain forest assessed to have medium to high functional values. Alternative C2 would impact 8 wetland areas with approximately

**TABLE 4.2.2.3
CENTRAL SEGMENT WETLAND IMPACTS**

| Wetland ID | Station No. | Wetland Type | Wetland Size | | Approximate Area Impacted | | Functional Values |
|--|-------------|-------------------|--------------|----------|---------------------------|----------|-------------------|
| | | | Acres | Hectares | Acres | Hectares | |
| Alternative C1 | | | | | | | |
| W-43 | 440 | Wet Meadow | 25.0 | 10.1 | 5.6 | 2.3 | Low-Medium |
| W-42 | 490 | Shrub-Carr | 11.0 | 4.5 | 2.5 | 1.0 | Low-Medium |
| W-17 | 580 | Wet Meadow | 9.2 | 3.7 | 1 | 0.4 | Low |
| W-18 | 600 | Wet Meadow | 5.2 | 2.1 | 4.9 | 2.0 | Low-Medium |
| W-19 | 610 | Floodplain Forest | 1.0 | 0.4 | 1 | 0.4 | Low-Medium |
| W-22 | 710 | Floodplain Forest | 11.2 | 4.5 | 6.9 | 2.8 | Medium-High |
| W-41 | 870 | Wet Meadow | 39.5 | 16.0 | 1.7 | 0.7 | Low-Medium |
| | | Total | 102.1 | 41.3 | 23.6 | 9.6 | |
| Alternative C2 | | | | | | | |
| W-6* | 380 | Wet Meadow | 9.9 | 4.0 | 3.0 | 1.2 | Low-Medium |
| W-7* | 420 | Sedge Meadow | 2.8 | 1.1 | 1.0 | 0.4 | Low-Medium |
| W-8* | 430 | Wet Meadow | 11.0 | 4.5 | 2.0 | 0.8 | Low-Medium |
| W-42 | 510 | Shrub-Carr | 11.0 | 4.5 | 0.9 | 0.4 | Low-Medium |
| W-16 | 580 | Wet Meadow | 38.5 | 15.6 | 1.3 | 0.5 | Low-Medium |
| W-20 | 590 | Wet Meadow | 12.4 | 5.0 | 1.8 | 0.7 | Low-Medium |
| W-22* | 680 | Floodplain Forest | 11.2 | 4.5 | 8 | 3.2 | Medium-High |
| W-41* | 870 | Wet Meadow | 39.5 | 16.0 | 1.4 | 0.6 | Low-Medium |
| | | Total | 136.3 | 55.2 | 19.4 | 7.8 | |
| *Modification C2(a) would impact these wetlands for a total impact of 15.4 acres (6.2 ha). | | | | | | | |
| ----- | | | | | | | |
| *Modification C2(b) would impact these wetlands in addition to W-45 (0.7 acre; 0.3 ha) and W-46 (3 acres; 1.2 ha) for a total impact of 18.4 acres (7.4 ha). | | | | | | | |
| Alternative C3 | | | | | | | |
| W-6 | 380 | Wet Meadow | 9.9 | 4.0 | 3 | 1.2 | Low-Medium |
| W-7 | 420 | Sedge Meadow | 2.8 | 1.1 | 1 | 0.4 | Low-Medium |
| W-8 | 430 | Wet Meadow | 11.0 | 4.5 | 2 | 0.8 | Low-Medium |
| W-9 | 470 | Wet Meadow | 8.3 | 3.4 | 3 | 1.2 | Low-Medium |
| W-10 | 480 | Forested Wetland | 4.6 | 1.9 | 1.8 | 0.7 | Low-Medium |
| W-11 | 530 | Wet Meadow | 61.5 | 24.9 | 8.4 | 3.4 | Low-Medium |
| W-21 | 680 | Wet Meadow | 52.5 | 21.2 | 9.9 | 4.0 | Low-Medium |
| W-41 | 870 | Wet Meadow | 39.5 | 16.0 | 1.4 | 0.6 | Low-Medium |
| | | Total | 190.1 | 77.0 | 30.5 | 12.3 | |
| Alternative C4 | | | | | | | |
| W-6 | 380 | Wet Meadow | 9.9 | 4.0 | 3 | 1.2 | Low-Medium |
| W-7 | 420 | Sedge Meadow | 2.8 | 1.1 | 1 | 0.4 | Low-Medium |
| W-8 | 430 | Wet Meadow | 11.0 | 4.5 | 2 | 0.8 | Low-Medium |
| W-9 | 470 | Wet Meadow | 8.3 | 3.4 | 3 | 1.2 | Low-Medium |
| W-10 | 480 | Forested Wetland | 4.6 | 1.9 | 1.8 | 0.7 | Low-Medium |
| W-11 | 530 | Wet Meadow | 61.5 | 24.9 | 7.1 | 2.9 | Low-Medium |
| W-12 | 570 | Wet Meadow | 3300.0 | 1335.5 | 11.9 | 4.8 | Medium-High |
| W-13 | 610 | Wet Meadow | 2.3 | 0.9 | 2 | 0.8 | Low |
| W-14 | 620 | Floodplain Forest | 2.3 | 0.9 | 2 | 0.8 | Low-Medium |
| W-15 | 650 | Wet Meadow | 23.0 | 9.3 | 2 | 0.8 | Low |
| W-23 | 740 | Floodplain Forest | 191.0 | 77.3 | 14.5 | 5.9 | Medium-High |
| W-24 | 810 | Floodplain Forest | 59.0 | 23.9 | 4.5 | 1.8 | Medium-High |
| | | Total | 3675.7 | 1487.6 | 54.8 | 22.1 | |

19.4 acres (7.8 ha) of wetland including 8 acres (3.2 ha) of floodplain forest assessed to have medium to high functional values. Alternative C3 would impact 8 wetland areas with approximately 30.5 acres (12.3 ha) of wetland that was assessed to have low to medium functional values. Alternative C4 would result in

the greatest wetland impacts, totaling 12 wetland areas with approximately 54.8 acres (22.1 ha). This would include 21 acres (8.5 ha) of floodplain forest that was assessed to have medium to high functional values.

4.2.2.4 North Segment

As shown in Table 4.2.2.4 and Figure 4.2.2.4, Alternative N1 would result in impacts to 10 wetland areas totaling approximately 22.3 acres (9.0 ha). Alternative N2 would impact 8 wetland areas with approximately 20.7 acres (8.4 ha) of wetland impacts. The wetlands impacted by each alternative were assessed to have low to high functional values.

| TABLE 4.2.2.4 NORTH SEGMENT WETLAND IMPACTS | | | | | | | |
|--|-------------|-------------------|--------------|----------|---------------------------|----------|-------------------|
| Wetland ID | Station No. | Wetland Type | Wetland Size | | Approximate Area Impacted | | Functional Values |
| | | | Acres | Hectares | Acres | Hectares | |
| Alternative N1 | | | | | | | |
| W-25 | 190 | Wet Meadow | 1.0 | 0.4 | 1 | 0.4 | Low-Medium |
| W-26 | 260 | Floodplain Forest | 30.3 | 12.3 | 2.7 | 1.1 | Low-Medium |
| W-31 | 440 | Wet Meadow | 8.8 | 3.6 | 4 | 1.6 | Low |
| W-33 | 510 | Wet Meadow | 45.5 | 18.4 | 1 | 0.4 | Low-Medium |
| W-34 | 520 | Wet Meadow | 4.0 | 1.6 | 4 | 1.6 | Low |
| W-37 | 550 | Wet Meadow | 7.6 | 3.1 | 1.8 | 0.7 | Low |
| W-38 | 690 | Wet Meadow | 1.0 | 0.4 | 1 | 0.4 | Low |
| W-39 | 740 | Wet Meadow | 76.0 | 30.8 | 0.9 | 0.4 | Low-High |
| W-40 | 520 | Wet Meadow | 7.0 | 2.8 | 1 | 0.4 | Low |
| W-44 | 510 | Wet Meadow | 8.3 | 3.4 | 4.9 | 2.0 | Low-Medium |
| | | Total | 189.5 | 76.8 | 22.3 | 9.0 | |
| Alternative N2 | | | | | | | |
| W-25 | 190 | Wet Meadow | 1.0 | 0.4 | 1 | 0.4 | Low-Medium |
| W-27 | 220 | Wet Meadow | 8.3 | 3.4 | 5 | 2.0 | Low-High |
| W-28 | 320 | Shrub-Carr | 172.3 | 69.7 | 7.8 | 3.2 | Low-Medium |
| W-29 | 370 | Floodplain Forest | 3.1 | 1.3 | 2 | 0.8 | Low-Medium |
| W-30 | 400 | Wet Meadow | 3.7 | 1.5 | 1 | 0.4 | Low-Medium |
| W-36 | 600 | Wet Meadow | 35.3 | 14.3 | 2 | 0.8 | Low |
| W-38 | 690 | Wet Meadow | 7.0 | 2.8 | 1 | 0.4 | Low |
| W-39 | 740 | Wet Meadow | 8.3 | 3.4 | 0.9 | 0.4 | Low-High |
| | | Total | 239.0 | 96.8 | 20.7 | 8.4 | |

4.2.2.5 Indirect Impacts to Wetlands

Potential indirect impacts to wetlands are not anticipated to be significant. The project will indirectly affect 10 wetland areas along the Crawfish River upstream from Alternatives C2, C2(a), and C2(b) (Table 4.2.2.5) by slightly altering water depths and velocities in the floodway during major, infrequent flooding events. Floodplain impacts are discussed in more detail in Section 4.2.3.3. The project will not affect the frequency or duration of inundation, which could affect the vegetative community. The overall indirect impacts to wetlands are expected to be negligible under the build alternatives, and are as likely to be beneficial as adverse. Therefore, mitigation measures are proposed only for directly impacted wetlands.

**TABLE 4.2.2.5
INDIRECT (HYDROLOGIC) WETLAND IMPACTS**

| Alternative | Site No. | Location Station | Area Indirectly Impacted | |
|---|-----------------------|------------------|--------------------------|----------|
| | | | Acres | Hectares |
| South Segment | | | | |
| S2 | No Hydrologic Impacts | | | |
| S3 | No Hydrologic Impacts | | | |
| Central Segment | | | | |
| C1 | No Hydrologic Impacts | | | |
| C2, C2(a), C2(b) | W-16 | 580 | 38.5 | 15.6 |
| | W-18 | 600 | 5.2 | 2.1 |
| | W-19 | 610 | 1.0 | 0.4 |
| | W-50 | 600 (left) | 6.4 | 2.6 |
| | W-51 | 600 (left) | 5.7 | 2.3 |
| | W-52 | 600 (left) | 9.1 | 3.7 |
| | W-53 | 600 (left) | 6.9 | 2.8 |
| | W-54 | 600 (left) | 10.5 | 4.2 |
| | W-55 | 600 (left) | 15.1 | 6.1 |
| | W-56 | 600 (left) | 3.0 | 1.2 |
| TOTAL | | 101.4 | 41.0 | |
| C3 | No Hydrologic Impacts | | | |
| C4 | No Hydrologic Impacts | | | |
| North Segment | | | | |
| N1 | No Hydrologic Impacts | | | |
| N2 | No Hydrologic Impacts | | | |
| Notes: For wetland sites not listed for a particular alternative, impacts are zero. Does not include areas directly impacted. | | | | |

4.2.3 Floodplains

This subsection describes potential impacts to floodplains that could occur as a result of this project. A floodplain is defined as lowland bordering a stream or river that is usually dry, but is subject to flooding. It is also described by the perimeter of the 100-year flood (1-percent) probable flood; that is, the area encompassed by a flood that has a 1 percent chance of occurring in any one period. The floodway of a stream is defined as the stream channel, plus any adjacent floodplain areas, that must be kept free of encroachment so that the 100-year flood can be carried without any substantial increases in flood heights. Minimum federal standards limit such increases to 1.0 foot, provided that hazardous velocities are not produced.

Floodplains within the project area are shown on Figures 4.2.3-1 for the South Segment, 4.2.3-2 for the Central Segment and 4.2.3-3 for the North Segment. The floodplain impacts for each alternative in the regional (100-year) flood are discussed below.

The Wisconsin Administrative Code NR 116 recognizes that floodplain zoning is a necessary tool to protect human life, health, and to minimize property damages and economic losses. Counties, cities, and villages within the State of Wisconsin are required to adopt reasonable and effective floodplain zoning ordinances within their jurisdictions, and such ordinances are in place.

Federal regulations require that a finding of no practicable alternative be prepared for projects that result in significant floodplain encroachment. If an alignment is selected which significantly affects the floodplain, a “No Practicable Alternative Finding” will be included in the Final EIS. Significant floodplain encroachment would involve:

- Potential for interruption or termination of use of a transportation facility needed for emergency vehicles or which provides a community’s only evacuation route.
- Probability of flooding with a potential for property loss and hazard to life.
- Adverse impact on natural floodplain values, such as flood storage, fish and wildlife habitat, open space, agriculture, natural beauty, or scientific areas.

Highway projects can impact floodplains *indirectly* by facilitating or inducing development in floodplains. This project will not support incompatible floodplain development for several reasons:

- Expressway access control standards will be applied to the new facility where additional lanes are constructed adjacent to existing lanes. Access will be limited to existing residential and farm entrances, at controlled spacing, and low-volume local roads will be reconnected. Additional access will be prohibited or strictly limited. Freeway access control standards will be applied to the new facility where the route leaves the existing alignment, notably at the bypass locations around Milton, Jefferson and Watertown. In these instances, no access to the facility will be allowed except at controlled interchanges.
- Rock, Jefferson, and Dodge Counties all have floodplain zoning ordinances that prohibit incompatible private development in the floodplain.
- Alternatives C2 and C2(a) would have an interchange with USH 18 that would be situated in the Crawfish River floodplain west of Jefferson. Although interchange locations are commonly subject to development pressure, the Jefferson County floodplain zoning ordinance would prohibit incompatible floodplain development associated with this interchange.

The remainder of this subsection concerns only *direct* floodplain impacts due to highway construction. Such floodplain encroachments can occur in two ways: transverse stream crossings and longitudinal encroachments into floodplain areas.

Transverse crossings occur when a stream is crossed and roadway construction in the floodplain is generally perpendicular to the stream flow. Longitudinal encroachment occurs when roadway construction in the floodplain is generally parallel to the stream flow. In either case, the additional fill required to raise, widen, or construct a new roadway can reduce the cross sectional area of the floodway necessary to convey the flow or can reduce the volume available for flood storage. Encroachments farther from the channel banks have little effect since the conveyance capacity in the distant floodplain is small compared to that of the main channel. In many cases, it may not be possible or practicable to

replace the loss of flow area or storage volume, and the resulting encroachment will raise the floodwater surface profile, thereby causing inundation of areas that were previously outside the floodplain.

4.2.3.1 No-Build Alternative

The No-Build Alternative will not impact floodplains or affect natural and beneficial floodplain values. Because the No-Build Alternative does not involve an existing structure or encroachment, there are no adverse impacts to the floodplain. Under the No-Build Alternative, an alignment would not encroach into the floodway.

4.2.3.2 Build Alternatives

In the South Segment, none of the build alternatives will cross any regulated floodplain areas. Therefore, these alternatives will not impact floodplains or alter natural and beneficial floodplain values.

In the Central Segment, Alternatives C1, C2, and C2(a) would cross the Crawfish River west of Jefferson. Alternative C2(b) crosses the Crawfish River downstream of the existing USH 18 Crawfish River bridge and west of Jefferson. Crossings of the Rock River would occur north of Jefferson under Alternatives C1, C2, C2(a) and C2(b) and south of Jefferson under Alternatives C3 and C4. All six alternatives would cross Johnson Creek just south of the Village of Johnson Creek.

In the North Segment, crossings of the Rock River would occur southwest of Watertown under Alternative N1 and east of Watertown under Alternative N2. Alternative N1 would also cross a floodplain area north of Watertown.

Floodplain impacts are expected at the Alternative C2 and C2(a) crossings of the Crawfish River west of Jefferson. The Alternative C2(b) crossing of the Crawfish River would have no substantial impact to the floodplain. However, under Alternative C2(b) the existing USH 18 river crossing would require reconstruction, which would impact the floodplain west of Jefferson. These impacts are discussed in detail below. At all of the remaining Central and North Segment locations, stream crossing structures would be sized to avoid floodway impacts, reducing available volume for flood storage, and backwater increases upstream from the crossing locations; none of these crossings is expected to have floodplain impacts.

4.2.3.3 Alternatives C2, C2(a) and C2(b)

Floodplain Analysis

Longitudinal encroachments are not a concern for Alternatives C2, C2(a) and C2(b). For all alternatives the new roadway would run parallel with the Crawfish River just downstream from USH 18. This area is outside of the floodway of the stream.

However, the Alternative C2, C2(a) and C2(b) transverse crossings of the Crawfish River could impact the floodplain. The Alternative C2 crossing at Mile Post 1.865 (approximately 2,400 feet upstream from USH 18; see Figure 4.2.3.3), the Alternative C2(a) crossing at Mile Post 1.66 (approximately 1,300 feet upstream from USH 18), and the Alternative C2(b) crossing at Mile Post 1.10 (approximately 1,600 feet downstream from USH 18) will consist of a new structure with ample freeboard (+20 feet). Near the

crossing location, Alternatives C2 and C2(a) would have an interchange with USH 18 that would be situated in the Crawfish River floodplain. This interchange would be located outside the floodway.

Alternative C2 over the Crawfish River was analyzed using the HEC-RAS computer model and hydraulic data obtained from the WDNR to determine the impacts on the regional flood elevation. The data used was from a Flood Insurance Study (FIS) for the Crawfish River in Jefferson County. Additional data was obtained from a 2-ft contour map to better approximate the floodplain geometry in the project area. The 100-year flow used in the analysis was taken from the October 16, 1984 FIS for Jefferson County.

The reconstruction of USH 18 over the Crawfish River, associated with Alternative C2(b), was also analyzed with HEC-RAS. The model used similar cross section data as the Alternative C2 analysis. A wider roadway with a raised profile was used to simulate proposed USH 18 reconstruction. Adjustments were made to cross-section input data because the proposed profile reduces the frequency of road overflow.

The results of the HEC-RAS analyses are presented in Table 4.2.3.3. Alternative C2 with a 400-foot bridge spanning the entire floodway is expected to raise the 100-year flood height by about 0.08-foot (25-mm). It would not be possible or practicable to replace the loss of flow area or storage volume. To eliminate an increase would require a bridge spanning the entire width of the floodplain, which is not practical because of the high costs associated with constructing such a span. Findings for Alternative C2(a) were similar to those for Alternative C2. HEC-RAS results from reconstruction of USH 18 (Alternative C2(b)) with a 100 feet wide roadway and raised profile eliminated road overflow. The new configuration is expected to raise the 100-year flood height by about 0.04-foot (13-mm). Eliminating road overflow forced more conveyance in the main channel section and removed part of the right floodplain from the active flow area.

| TABLE 4.2.3.3 PREDICTED WATER SURFACE ELEVATIONS FOR THE REGIONAL FLOOD | | | | | |
|--|---|-------------------|--------------|--|--------------|
| Hydraulic Cross Sections (1) (Mile Post) | Water Surface Elevation at Crawfish River (NVGD ft.) | | | Elevation Difference (feet) | |
| | No-Build | C2 / C2(a) | C2(b) | C2/C2(a) | C2(b) |
| 0.0 | Rock River | | | | |
| 0.3 | 787.80 | 787.80 | 787.80 | 0.00 | 0.00 |
| 1.30 | 788.17 | 788.17 | 788.14 | 0.00 | -0.03 |
| 1.405 | USH 18 | | | | |
| 1.43 | 788.27 | 788.27 | 788.22 | 0.00 | -0.05 |
| 1.78 | 788.35 | 788.34 | 788.39 | -0.01 | 0.04 |
| 1.83 | 788.36 | 788.35 | 788.40 | -0.01 | 0.04 |
| 1.865 | Alternative C2 Crossing (proposed STH 26) | | | | |
| 1.90 | 788.38 | 788.39 | 788.42 | 0.01 | 0.04 |
| 2.24 | 788.54 | 788.62 | 788.58 | 0.08 | 0.04 |
| 3.90 | 789.08 | 789.14 | 789.12 | 0.06 | 0.04 |

(1) See Figure 4.2.3.3 for location of hydraulic cross sections.

Due to the confluence with the Rock River and the flat water surface profile of the Crawfish River, a slight increase (< 0.1 foot) of the regional base flood elevation is expected to propagate upstream to IH 94

with Alternatives C2, C2(a), and C2(b). No habitable buildings or other structures would be inundated by the raised base flood elevation. The increase would be so minimal that it would not be possible to measure the newly inundated area from topographic maps. The newly inundated area consists primarily of farmland with some small wetland and woodlot areas.

Channel mean flow velocities in the impacted area range from about 2 to 3 feet per second in the regional (100-year) event. Because the Crawfish River is in the outwash plain of the Rock River, the water surface profile is relatively flat in the project area. The project is not expected to increase the potential for erosion during major, infrequent flooding events. In the area of greatest effect from Alternative C2 and C2(a), the flow velocity will be increased from approximately 2.3 feet per second to 3.0 feet per second. Likewise the velocity is expected to increase from 1.8 feet per second to 2.6 feet per second as a result of the USH 18 reconstruction associated with Alternative C2(b). Effects on flood elevation and velocity are negligible downstream of project areas.

Natural and Beneficial Floodplain Values

The increase in the base flood elevation would have minor impacts on the natural and beneficial floodplain values. Habitat loss would occur primarily in the directly impacted wetlands associated with the floodplain. According to the WDNR Wisconsin Wetland Inventory maps, 90 percent of the wetlands along the Crawfish River upstream of the proposed crossing location consist of forested wetlands, which are less likely to be impacted by a small rise in the water level for a short duration. The remaining 10 percent of the wetlands are mapped as wet meadow wetlands, which are more susceptible to a rise in water levels. Since the probability of occurrence of this storm is once every 100 years and the duration of the high water levels is expected to be for a few days, this type of storm is not anticipated to impact upstream wetlands. Additional wetland impacts are discussed separately in Section 4.2.2.

The proposed crossing would have no effect on normal flows occurring within the stream banks, and a moderate effect on velocities in the floodway during major flooding events. Therefore, Alternatives C2, C2(a) and C2(b) would not substantially affect water quality protection, fisheries, vegetation, or recreational uses of the river.

Agricultural Impacts of Flooding

The impacts discussed above relate to the regulated floodplain, the area that is inundated by the 100-year flood. Adverse impacts can also occur due to changes in the depth or other characteristics of lesser magnitude floods that recur more frequently, with the principal concern being crop damage. Hydraulic analysis indicates that in the 10-year storm event (an event having a 10 percent probability of occurring in any given year), Alternatives C2 and C2(a) will raise the flood height of the Crawfish River by a maximum of approximately 0.04 foot (13 mm) compared to the No-Build Alternative. Alternative C2(b) will raise the flood height of the Crawfish River by a maximum of approximately 0.02 foot (6 mm) compared to the No-Build Alternative. The area of additional land that would be inundated under any of the build alternatives is insubstantial and would consist mostly of hillside at the fringes of the cropland.

Crop loss can result from several conditions, including:

- Soil that is too wet to plant during normal planting time.
- Soil that is saturated in the root zone for an extended period of time, normally more than two weeks, during any point in the growing cycle.

- Scour caused by surface water flow at high velocities, especially when plants are young.

The first two conditions relate to movement of water within the soil rather than to surface flooding events. Alternatives C2, C2(a) and C2(b) would not substantially change these conditions. Neither alternative would affect the frequency of overbank flooding, which typically has a recurrence interval of less than two years. Alternative C2(b) would raise the profile of USH 18 while widening the USH 18 bridge over the Crawfish River and would not affect the floodway of the Crawfish River. Alternatives C2, C2(a), and C2(b) would have negligible effect on the duration that surface water remains standing as backwater effects starting downstream at the Rock River control this almost entirely.

Alternatives C2, C2(a) and C2(b) will slightly increase the depth and velocity of flow during overbank flood events on the Crawfish River. Scour conditions, however, normally occur in localized areas just downstream of the locations where stream banks are first breached. These scour channels are frequently associated with high-velocity, short-duration flash floods on sub-drainage basins, rather than flooding on the main stem itself. The project will have negligible effect on the peak flows or response times for the Crawfish River or its major tributaries.

Agency Coordination

Coordination with WDNR, FEMA, and the U.S. Army COE has been initiated to solicit their comments and to inform these regulatory agencies that if Alternative C2, C2(a), or C2(b) is chosen as the Preferred Alternative, the proposed improvement may require revision of official floodplain maps and zoning ordinances. This action would be in conformance with state and local floodplain standards provided that:

- Hydraulic calculations are completed and affected property owners are compensated in accordance with the WisDOT/WDNR Cooperative Agreement as amended in 1988.
- Amendments are made to the official floodplain maps and Jefferson County's floodplain zoning ordinance.

The change in the regional flood elevation would not result in substantial changes to floodplain maps due to the minimal increase. However, the location of the floodplain may differ after new topography is generated for this project.

4.2.4 Groundwater and Drinking Water Supply

The proposed highway alternatives are not anticipated to adversely impact groundwater or drinking water resources. Well construction reports from representative locations in the project area indicate that area drinking water aquifers are at depths that will not be affected by the project. According to the USEPA, no sole-source aquifers have been designated in the State of Wisconsin.

4.2.5 Upland Habitat and Wildlife

4.2.5.1 General

Direct impacts to upland habitats may occur in two ways: loss of habitat by converting it to roadway and habitat fragmentation from constructing the roadway through an existing habitat. Converting habitat to roadway would result in a direct loss of food and cover for species utilizing the habitat. Fragmentation of

habitat reduces the size of individual wooded areas, thereby decreasing the “habitat island” size. When this happens, there is an increase in edge area relative to interior area. Edge species, which are more tolerant of changing and varied conditions, may replace interior species in small wooded areas. The result is that small wooded areas are not representative of the original wooded habitat. Where the build alternative will only impact the edge of the wooded area, significant fragmentation of habitat will not occur.

Relative to larger areas of a particular habitat, small habitat patches are less likely to contain the full range of resources to support a given species. Additionally, a small habitat patch will contain a lesser absolute amount of a given resource available to individuals of species. For these two reasons, a small habitat patch is likely to support a smaller number of species and smaller populations of a given species relative to a large habitat patch.

4.2.5.2 South Segment

As shown in Table 4.2.5.2, Alternatives S2 and S3 would impact the same three upland wooded areas north of the City of Milton and would total approximately 4.5 acres (1.8 ha) of upland wooded habitat impacted. All three impacts would be fringe impacts with no fragmentation of existing habitat. See Exhibit 5 for location of impacted wooded areas.

| TABLE 4.2.5.2 SOUTH SEGMENT UPLAND WOODED HABITAT IMPACTS | | | | | |
|--|----------------|---|---------------------------|----------|----------------|
| Wooded Habitat ID | Station No. | Habitat Type (Southern Hardwoods) | Approximate Area Impacted | | Type of Impact |
| | | | Acres | Hectares | |
| Alternatives S2 and S3 | | | | | |
| F-1 | 650 | Dry-Mesic | 2 | 0.8 | Fringe |
| F-2 | 680 | Dry-Mesic | 2.2 | 0.9 | Fringe |
| F-3 | 710 | Dry | 0.3 | 0.1 | Fringe |
| | | Total | 4.5 | 1.8 | |

4.2.5.3 Central Segment

As shown in Table 4.2.5.3, Alternative C1 would result in approximately 12 acres (4.8 ha) of upland wooded area impacts. Alternative C2 would result in approximately 9 acres (3.6 ha) of upland wooded area impacts. Modifications of C2, referred to as C2(a) and C2(b), would impact 8 acres (3.2 ha) and 9 acres (3.6 acres), respectively. Alternative C3 would result in approximately 2 acres (0.9 ha) of upland wooded area impacted, and Alternative C4 would result in 10.5 acres (4.3 ha) of upland wooded area impacts. Alternatives C2 and C4 would result in one severance of upland wooded habitat, causing fragmentation of habitat. See Exhibit 6 for location of impacted wooded areas.

**TABLE 4.2.5.3
CENTRAL SEGMENT UPLAND WOODED HABITAT IMPACTS**

| Wooded Habitat ID | Station No. | Habitat Type (Southern Hardwoods) | Approximate Area Impacted | | Type of Impact |
|---|----------------|---|---------------------------|----------|----------------|
| | | | Acres | Hectares | |
| Alternative C1 | | | | | |
| F-4 | 360 | Mesic | 1 | 0.4 | Fringe |
| F-6 | 510 | Dry-Mesic | 4 | 1.6 | Fringe |
| F-8 | 460 | Dry | 4 | 1.6 | Fringe |
| F-10 | 720 | Mesic | 3 | 1.2 | Fringe |
| | | Total | 12 | 4.8 | |
| Alternative C2 | | | | | |
| F-5* | 420 | Mesic | 1 | 0.4 | Severance |
| F-7 | 530 | Mesic | 1 | 0.4 | Fringe |
| F-8* | 480 | Dry | 4 | 1.6 | Fringe |
| F-10* | 690 | Mesic | 3 | 1.2 | Fringe |
| | | Total | 9 | 3.6 | |
| *Modification C2(a) would impact these woodlands for a total impact of 8 acres (3.2 ha). | | | | | |
| ----- | | | | | |
| *Modification C2(b) would impact these woodlands in addition to F-25 (1 acre; 0.4 ha) for a total impact of 9 acres (3.6 ha). | | | | | |
| Alternative C3 | | | | | |
| F-9 | 670 | Dry-Mesic | 1 | 0.4 | Fringe |
| F-16 | 495 | Dry-Mesic | 0.3 | 0.1 | Fringe |
| F-17 | 518 | Dry-Mesic | 0.7 | 0.3 | Fringe |
| F-18 | 604 | Dry-Mesic | 0.1 | 0.1 | Fringe |
| | | Total | 2 | 0.9 | |
| Alternative C4 | | | | | |
| F-16 | 495 | Dry-Mesic | 0.3 | 0.1 | Fringe |
| F-17 | 518 | Dry-Mesic | 0.7 | 0.3 | Fringe |
| F-19 | 565 | Dry-Mesic | 0.6 | 0.2 | Fringe |
| F-20 | 610 | Dry-Mesic | 1.4 | 0.6 | Whole |
| F-21 | 623 | Dry-Mesic | 3.7 | 1.5 | Severance |
| F-22 | 810 | Dry-Mesic | 3.8 | 1.6 | Whole |
| | | Total | 10.5 | 4.3 | |

4.2.5.4 North Segment

As shown in Table 4.2.5.4, Alternative N1 would result in approximately 7 acres (2.8 ha) of upland wooded area impacts. The area impacted by the Alternative N1 would be on the fringe, with no fragmentation of habitat. Alternative N2 would result in approximately 23 acres (9.2 ha) of upland wooded area impacts. The Alternative N2 impacts are all severances and would cause habitat fragmentation at the five wooded areas impacted. See Exhibit 7 for location of impacted wooded areas.

TABLE 4.2.5.4
NORTH SEGMENT UPLAND WOODED AREA IMPACTS

| Wooded Habitat ID | Station No. | Habitat Type (Southern Hardwoods) | Approximate Area Impacted | | Type of Impact |
|----------------------|----------------|---------------------------------------|---------------------------|----------|----------------|
| | | | Acres | Hectares | |
| Alternative N1 | | | | | |
| F-14 | 370 | Dry-Mesic | 7 | 2.8 | Fringe |
| Alternative N2 | | | | | |
| F-11 | 290 | Dry | 4.3 | 1.7 | Severance |
| F-12 | 330 | Mesic | 1.8 | 0.7 | Severance |
| F-13 | 360 | Dry-Mesic | 5.4 | 2.2 | Severance |
| F-23 | 256 | Dry-Mesic | 10.2 | 4.1 | Severance |
| F-24 | 456 | Dry-Mesic | 1.3 | 0.5 | Severance |
| | | Total | 23 | 9.2 | |

4.2.6 Threatened and Endangered Species

No federally listed threatened or endangered species are impacted by the build alternatives. As discussed in Section 3.3.7, a federally listed threatened species, the eastern prairie fringed orchid, occurs near the project area west of Alternatives S2 and S3. However, a field survey in 1999 indicated that these alternatives would not directly impact this species. No indirect impacts are anticipated. Prior to construction, a follow-up field survey will be conducted to confirm that this species is not present within the construction limits. During construction, efforts will be made to avoid impeding the natural subsurface drainage near Otter Creek.

Records on file with the Wisconsin Department of Natural Resources Bureau of Endangered Resources (BER) indicate that 34 species that may occur within the project area possess the status of state endangered, threatened, or special concern.

An endangered species is defined as being in danger of extinction or extirpation from the state throughout all or a significant portion of its range. A threatened species is defined as being likely to become endangered within the foreseeable future throughout all or a significant portion of its range. Special concern species are species about which some problem of abundance or distribution is suspected, but not proven. The main purpose of this designation is to focus attention on certain species before they become threatened or endangered. Special concern species are not protected under Chapter 27 of the Wisconsin Administrative Code, Endangered and Threatened Species. The following paragraphs summarize the potential for species identified by the BER to be affected by the proposed alternatives. Table 4.2.6 summarizes the potential direct and indirect impacts to the species' preferred habitats.

The preferred habitat for many of the plant species of concern, as listed in Table 3.3.7-1, is dry, sandy prairies. No impacts to dry prairies are expected along any of the alternatives. Several other species prefer wet or wet-mesic prairies or sedge meadows, such as the prairie Indian plantain (*Cacalia tuberosa*), the marsh blazing star (*Liatris spicata*), the downy willow herb (*Epilobium strictum*), the tubercled orchid (*Platanthera flava herbiola*), and the prairie white-fringed orchid (*Platanthera leucophaea*). There is

potential for this habitat to be impacted by the two East Jefferson Bypasses and the Near West Jefferson Bypass Alternatives.

**TABLE 4.2.6
POTENTIAL IMPACTS TO THREATENED
AND ENDANGERED SPECIES HABITAT**

| Species | Status | Alternatives | | | | | | |
|--|--------|-------------------------------|-----------------|-----|-----|-----|------------------|-----|
| | | South Segment S2 and S3 | Central Segment | | | | North Segment | |
| | | | C1 | C2* | C3 | C4 | N1 | N2 |
| Plants | | | | | | | | |
| Pale purple coneflower (<i>Echinacea pallida</i>) | T | D | D | D | D | D | D | D |
| Prairie parsley (<i>Polytania nuttallii</i>) | T | D | -- | D | D | D | D | -- |
| Sycamore (<i>Platanus occidentalis</i>) | SC | D | D | D | -- | D | D | D |
| Rough white lettuce (<i>Prenanthes aspera</i>) | E | -- | -- | -- | -- | -- | -- | -- |
| Prairie dandelion (<i>Nothocalius cuspidata</i>) | SC | -- | -- | -- | -- | -- | -- | -- |
| Prairie bush clover (<i>Lepedeza leptostachya</i>) | T | -- | -- | -- | -- | -- | -- | -- |
| Prairie thistle (<i>Cirsium hillii</i>) | T | D | -- | D | D | D | -- | -- |
| Meadow parsnip (<i>Thaspium trifoliatum</i>) | SC | -- | D | D | -- | D | -- | -- |
| Pink milkwort (<i>Polygala incarnata</i>) | E | -- | -- | -- | -- | -- | -- | -- |
| Marsh horsetail (<i>Equisetum palustre</i>) | SC | D,I | D,I | D,I | D,I | D,I | D,I | D,I |
| Richardson sedge (<i>Carex richardsonii</i>) | SC | -- | -- | -- | -- | -- | -- | -- |
| Prairie white-fringed orchid (<i>Platanthera leucophaea</i>) | T | D,I | -- | D,I | D,I | D,I | -- | -- |
| White ladies slipper (<i>Cypripedium candidum</i>) | T | -- | -- | -- | -- | -- | -- | -- |
| Prairie Indian plantain (<i>Cacalia tuberosa</i>) | T | D | -- | D | D | D | -- | -- |
| Marsh blazing star (<i>Liatris spicata</i>) | SC | -- | -- | D,I | D,I | D,I | -- | -- |
| Downy willow herb (<i>Epilobium strictum</i>) | SC | -- | -- | D,I | D,I | D,I | -- | -- |
| Tuberclad orchid (<i>Platanthera flava herbiola</i>) | T | -- | -- | D,I | D,I | D,I | -- | -- |
| American gromwell (<i>Lithospermum latifolium</i>) | SC | -- | -- | -- | -- | -- | -- | -- |
| Prairie milkweed (<i>Asclepias sullivantii</i>) | T | -- | -- | -- | -- | -- | -- | -- |
| Prairie sagewort (<i>Artemisia frigida</i>) | SC | -- | -- | -- | -- | -- | -- | -- |
| Fish | | | | | | | | |
| Redfin shiner (<i>Lithrurus umbratilis</i>) | T | -- | D | D | D | D | D | D |
| American eel (<i>Anguilla rostrata</i>) | SC | -- | D | D | D | D | D | D |
| Least darter (<i>Etheostoma microperca</i>) | SC | -- | -- | -- | -- | -- | -- | -- |
| Pugnose minnow (<i>Notropis emiliae</i>) | SC | -- | D | D | D | D | D | D |
| Weed shiner (<i>Notropis texanus</i>) | SC | -- | D | D | D | D | D | D |
| Slender madtom (<i>Noturus exilis</i>) | E | D | D | D | D | D | -- | -- |
| Greater redhorse (<i>Moxostoma valenciennesi</i>) | T | -- | D | D | D | D | D | D |
| River redhorse (<i>Moxostoma carinatum</i>) | T | -- | D | D | D | D | D | D |
| Herptiles | | | | | | | | |
| Blanding's turtle (<i>Emydoidea blandingii</i>) | T | D,I | D,I | D,I | D,I | D,I | D,I | D,I |
| Queen snake (<i>Regina septemvittata</i>) | E | D | -- | -- | -- | -- | -- | -- |
| Blanchard's cricket frog (<i>Acris crepitans blanchardi</i>) | E | -- | D,I | D,I | D,I | D,I | D,I | D,I |
| Mammals | | | | | | | | |
| Franklin's ground squirrel (<i>Spermophilus franklinii</i>) | SC | D | D | D | D | D | D | D |
| Prairie vole (<i>Microtus ochrogaster</i>) | SC | -- | -- | -- | -- | -- | -- | -- |
| Birds | | | | | | | | |
| Black-crowned night heron (<i>Nycticorax nycticorax</i>) | SC | -- | -- | -- | -- | D | -- | D |
| NOTES: | | | | | | | | |
| Status: T = Threatened E = Endangered SC = Special Concern D = Potential Direct Impacts | | | | | | | | |
| I = Potential Indirect Impacts | | | | | | | | |
| *Modifications C2(a) and C2(b) would have similar impacts as compared to Alternative C2. | | | | | | | | |

Of the eight fish species on the list, all but the least darter (*Etheostoma microperca*) have the potential for impacts to their habitat at the Rock and Crawfish River crossing locations of all the Jefferson Bypass Alternatives, including the Fort Atkinson Bypass, and the two Watertown Bypass Alternatives.

The preferred habitat of the Blanding's turtle (*Emydoidea blandingii*) will be potentially impacted by all the alternatives, while the Blanchard's cricket frog's (*Acris crepitans blanchardi*) preferred habitat will potentially be impacted by all four Jefferson Bypass Alternatives, including the Fort Atkinson Bypass, and both of the Watertown Bypass Alternatives. At the Otter Creek crossing location, both Milton Bypass Alternatives will potentially impact the preferred habitat of the queen snake (*Regina septemvittata*).

The preferred habitat of the Franklin's ground squirrel (*Spermophilus franklinii*), brushy and partly wooded areas, dense grassy, shrubby marshland and prairie edges, will potentially be impacted by all the alternatives. The preferred habitat of the prairie vole (*Microtus ochrogaster*), dry and sandy prairies, is not anticipated to be impacted by any of the alternatives.

The preferred habitat of the black-crowned night heron (*Nycticorax nycticorax*), wetlands dominated by bulrush and cattail with small groves of brush, may potentially be impacted by the Far East Jefferson Bypass Alternative and the East Watertown Bypass Alternative.

During a field reconnaissance, none of the listed species was identified. Signs indicating the presence of the species were not observed, although it should be noted that a comprehensive search was not performed. Detailed field investigations will be conducted during future design projects along preferred alternative when it is identified. If it is determined that, through unforeseen circumstance impacts will occur to threatened or endangered species or their habitat, WisDOT will coordinate with WDNR to evaluate appropriate avoidance or mitigative measures.

4.2.7 Natural and Conservancy Areas

Several of the designated State Natural Areas in the project area discussed in Section 3.3.8 are potentially impacted by one or more of the build alternatives. Impacts relating to these areas are discussed below.

4.2.7.1 South Segment

Existing STH 26 crosses both a designated natural area along Otter Creek and the Otter Creek Springs Natural Area. The No-Build Alternative would have no impacts on the beneficial values of these natural areas.

Both Alternatives S2 and S3 would cross Otter Creek and impact both natural areas. At least one additional crossing would be required to construct the additional two-lanes of roadway. An interchange is also proposed at STH 26 and CTH N. Some of the ramps for the interchange may also require a crossing of Otter Creek, and the entire Otter Creek Springs natural area would be converted to highway use.

4.2.7.2 Central Segment

Existing STH 26 crosses a designated natural area along the Rock River on the Fort Atkinson Bypass and travels adjacent to the Jefferson Railroad Prairie Natural Area. The No-Build Alternative would have no impacts on the beneficial values of the natural area.

All Central Segment build alternatives would cross the designated natural area along the Rock River at the current STH 26 crossing on the Fort Atkinson Bypass. Either one additional bridge next to the existing one or a widening of the existing bridge would be required. Impacts to this area would potentially include the construction of a bridge pier in the Rock River.

Jefferson Railroad Prairie natural area would potentially be impacted by all Central Segment build alternatives. Approximately 0.5 acres (0.2 ha) of this 12-acre (4.9 ha) area would potentially be converted to highway use. If it is determined that no area is required for highway use, all build alternatives would parallel this natural area for approximately one mile (1.6 km).

4.2.7.3 North Segment

Existing STH 26 crosses the designated natural area along the Rock River in the City of Watertown. The No-Build Alternative would have no impacts on the beneficial values of the natural area.

All North Segment build alternatives would require a new crossing of the designated natural area along the Rock River either southwest of Watertown along Alternative N1 or southeast of Watertown along Alternative N2. Impacts to this area would potentially include the construction of a bridge pier in the Rock River.

4.2.8 Section 4(f) and Section 6(f) Impacts

Section 4(f) of the US Department of Transportation Act (49 USC 303) states that federal funds may not be approved for projects that use land from a publicly-owned park, recreation area, wildlife and waterfowl refuge, or historical site unless determination is made that there is no feasible and prudent alternative to the use of land from such properties, and the action includes all possible planning to minimize harm to the property resulting from such use.

For purposes of Section 4(f), only historic properties or sites that are on, or determined to be eligible for inclusion on the National Register of Historic Places (NRHP) are considered historic. Section 4(f) requirements may be applicable to certain archaeological sites. However, Section 4(f) does not apply if it is determined, in consultation with the State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation (ACHP), that the archaeological resource is important chiefly because of what can be learned by data recovery and has minimal value for preservation in place.

Section 6(f) of the Land and Water Conservation Fund (LAWCON) Act requires that replacement lands be provided for National Park lands, or lands acquired with LAWCON funds, which are converted to highway use.

None of the alternatives carried forward for detailed study require use of land from Section 4(f) or 6(f) protected resources as discussed below.

This section discusses the applicability of Section 4(f) and Section 6(f) requirements to public use lands and historic properties within the study area. Each public use land or historic site is described as being impacted or not impacted under the proposed detailed study alternatives. Tables 4.2.8.1, 4.2.8.2, and 4.2.8.3 provide a summary of the potential 4(f) impacts in the study area. A detailed description and map of public use lands in the study area is provided in Section 3.3.9.

Snowmobile Trails - The counties and private snowmobile clubs maintain a system of snowmobile trails throughout Rock, Jefferson, and Dodge Counties. Trails are maintained with snowmobile registration fees administered by the WDNR. The trails are leased from private property owners on a one-year basis. Occupancy of STH 26 right-of-way to cross the roadway is permitted under Chapter 350 of the Wisconsin Statutes. The requirements of Section 4(f) do not apply to the trails since they are not publicly owned and occupy private lands on a temporary easement basis. The continuity of trails and crossing points will be maintained under the STH 26 alternatives to the extent reasonably possible.

4.2.8.1 South Segment

Ice Age National Scenic Trail – A section of the trail is in the planning stages along an abandoned railroad corridor located west of STH 26 between Janesville and Milton. WisDOT owns much of the abandoned railroad corridor, with the remainder in private ownership. Plans for the trail include two crossings of STH 26 outside of the abandoned railroad corridor.

One crossing is planned near Rotamer Road just north of IH 90. The Ice Age Trail crossing near Rotamer Road (see Exhibit 5, sheet 1) is planned to be an overpass bridge to accommodate hikers and bikers. All right-of-way required for STH 26 under this project currently exists at this location, and no new lands would be required. The City of Janesville in coordination with WisDOT is currently seeking funds for the crossing. Since no new lands for STH 26 highway right-of-way are required at this location, Section 4(f) requirements are not applicable.

The second proposed crossing is at Storrs Lake Road within the City of Milton (see Exhibit 5, sheet 2). The Ice Age Trail is in the early planning stages at this location. It is proposed to link the City of Milton residents to the Milton House and the Storrs Lake Wildlife Area, both popular destinations, with a trail along Storrs Lake Road within public right-of-way. Both Alternatives S2 and S3 provide an overpass crossing that would carry STH 26 over the top of Storrs Lake Road and the proposed Ice Age Trail. The planned Ice Age Trail would simply occupy the rights-of-way of Storrs Lake Road, and would not be limited to any specific location within the right-of-way. Any slight adjustment in the roadway alignment due to a STH 26 overpass would not impair the continuity of the planned trail. Therefore, Section 4(f) requirements are not applicable at this location.

Storrs Lake Wildlife Area – This wildlife area, located east of Milton, is not impacted by any of the current study alternatives in the South Segment. Since this area is not classified as a wildlife refuge, Section 4(f) requirements would not apply.

Crossridge Park – This city park, located in southern Milton west of STH 26, is adjacent to both South Segment alternatives. No acquisition of parkland is anticipated; therefore, Section 4(f) requirements would not apply.

STH 26 Wayside – This state-owned wayside, located in the northeast quadrant of STH 26 and Vickerman Road north of Milton, is anticipated to be impacted under both South Segment study alternatives. However, since this property is not recreational land, Section 4(f) requirements would not apply.

Lake Koshkonong Marsh Wildlife Area – This state-owned wildlife area, located 0.5 mile (0.8 km) west of STH 26 between Lake Koshkonong and Fort Atkinson, is not impacted under any of the current study alternatives. Since this area is not classified as a wildlife refuge, Section 4(f) requirements would not apply.

County Glacial River Recreation Trail – This Jefferson County trail is located within an abandoned railroad corridor adjacent to the west side of STH 26 from the Rock-Jefferson County Line north to the City of Ft. Atkinson. In order to minimize impact to wetland area W3 on the east side of existing STH 26, Alternatives S2 and S3 will require that approximately 1000 feet (300 m) of this trail at the southern terminus be adjusted within the existing trail corridor. The Wisconsin Department of Transportation owns the 100 foot (30 m) rail corridor at this location. Jefferson County has a 25 year lease on the corridor for their transportation trail. The recorded lease agreement states in part, “It is expressly provided and agreed by the parties hereto that if the LESSOR (WisDOT) determine that it is necessary to construct additional highway improvements, said LESSOR may partially, or if necessary, completely terminate this AGREEMENT upon 90 days written notice to the LESSEE (Jefferson County).” Since the County Glacial River Recreation Trail simply occupies the rights of way owned by the Wisconsin Department of Transportation, and is not limited to any specific location within that right of way, a “use” of land would not occur and Section 4(f) requirements would not apply. A minor adjustment in the alignment of the trail of about 40 feet (12 m) would be required, and the trail would remain within the existing 100 foot (30 m) abandoned railroad corridor. The change in the alignment of the trail would not impair the continuity of the trail.

TABLE 4.2.8.1
SECTION 4(f) IMPACTS
SOUTH SEGMENT – JANESVILLE TO FORT ATKINSON

| Site Name | 4(f) Impact Under Alternative: | | Remarks |
|--|--------------------------------|----|--|
| | S2 | S3 | |
| Ice Age National Scenic Trail (Rotamer Road crossing) | NO | NO | STH 26 Right of Way exists. No land acquisition anticipated. |
| Ice Age National Scenic Trail (Storrs Lake Road crossing) | NO | NO | Planned trail to occupy the rights of way of Storrs Lake Road |
| Storrs Lake Wildlife Area | NO | NO | Not a wildlife refuge. No land acquisition anticipated. |
| Crossridge Park | NO | NO | No park land acquisition anticipated |
| STH 26 Wayside | NO | NO | Non-recreational use |
| Lake Koshkonong Marsh Wildlife Area | NO | NO | Not a wildlife refuge. No land acquisition anticipated. |
| County Glacial River Recreation Trail | NO | NO | Trail occupies highway right of way. Continuity of trail will not be impaired. |

4.2.8.2 Central Segment

County Glacial River Recreation Trail – The northern section of this trail travels on paved paths and local roads near the Business 26 interchange south of Fort Atkinson. The trail currently passes under STH 26 on Groeler Road. STH 26 would cross Groeler Road at the same location with the addition of two lanes to the existing two lanes. The trail will not be impacted under any Central Segment study alternatives. Since the trail is currently within STH 26 right-of-way and on a local road, Section 4(f) requirements would not apply.

Glacial Drumlin Trail – This 47 mile (75 km) state-owned trail is located between the Village of Cottage Grove in Dane County and the City of Waukesha in Waukesha County on an abandoned railroad grade. LAWCON funds (Project 55-01626) were used to develop the trail. A 4 mile (6.4 km) gap in this east-west trail is located north of the City of Jefferson from the east side of STH 26 to Switzke Road. Switzke Road is located about 4 miles (6.4 km) east of STH 26. There are no designated trail routes around this gap in the trail. Coming from the west, the trail crosses under existing STH 26. From the east side of STH 26, the trail travels south about 1,500 feet (450 m) within STH 26 highway right-of-way, permitted by revocable easement, to Junction Road where trail users can travel along local public roads to connect back to the trail at Switzke Road. Alternatives C1 and C2 would affect a portion of the trail located within existing STH 26 highway right-of-way. Since this the trail is within the STH 26 right-of-way with no specific location within the right-of-way (and temporary highway easement), Section 4(f) requirements would not apply. A new trail connection to local roads would be provided.

Bicentennial Park – This park, located along the east side of STH 26 approximately one mile (1.6 km) south of the Village of Johnson Creek (CTH Y), will not be impacted under all study alternatives. The use of this park is limited and the majority of land is fenced and gated and not open to the general public as a recreational area. Since no property acquisition is anticipated, Section 4(f) requirements would not apply.

St. Coletta School Historic District – This historic district on the NRHP, located one-half mile east of the City of Jefferson on USH 18, forms the historic center of the larger campus of buildings that makes up



St. Coletta School Historic District

St. Coletta of Wisconsin. The 900-foot square 18.60-acre District contains nine buildings as shown here. Alternatives C3 and C4 travel near this site, but do not impact the properties. Alternatives C3 and C4 would be approximately 1,100 and 1,800 feet from the buildings, respectively. There would be no land acquisition from the site, and there would be no impairment of the use of the property. Therefore, Section 4(f) requirements would not apply.



St. Coletta Alverno Cottages

St. Coletta Alverno Cottages
– The Alverno Cottages,

located approximately one-half mile north of the main campus of St. Coletta's School described above, was built in 1937 and meets the NRHP criteria. Alternative C3 would travel approximately 650-feet to the west of the buildings. There would be no land acquisition from the site, and there would be no impairment of use of the property. Therefore, Section 4(f) requirements would not apply.

**TABLE 4.2.8.2
SECTION 4(f) IMPACTS
CENTRAL SEGMENT – FORT ATKINSON TO JOHNSON CREEK**

| Site Name | 4(f) Impact Under Alternative: | | | | Remarks |
|---------------------------------------|--------------------------------|-----|----|----|---|
| | C1 | C2* | C3 | C4 | |
| County Glacial River Recreation Trail | NO | NO | NO | NO | Trail crossing within highway right-of-way |
| Glacial Drumlin Trail | NO | NO | NO | NO | C1 and C2 cross trail located in STH 26 right-of-way |
| Bicentennial Park | NO | NO | NO | NO | Limited use and gated park No property acquisition |
| St. Coletta School Historic District | NO | NO | NO | NO | On NRHP - No property acquisition |
| St. Coletta Alverno Cottages | NO | NO | NO | NO | Eligible for NRHP - No property acquisition |

*Modifications C2(a) and C2(b) would have the same 4(f) impacts as Alternative C2.

4.2.8.3 North Segment

Quarry Park – This park, located in the northwest portion of the City of Watertown, would not be impacted by any study alternatives. Alternative N1 travels adjacent to the park, but acquisition of parkland is not anticipated. Therefore, Section 4(f) requirements would not apply. LAWCON funds were used to purchase the property.

Slight's Standard Oil Filling Station – This small, one-story, Tudor Revival building on a poured concrete basement is located on the southwest corner of STH 26 and Kiln Road in Dodge County just north of the City of Watertown. It is eligible for the National Register of Historic Places. There would be no land acquisition required from the site, and there would be no impairment of use of the property. Therefore, Section 4(f) requirements would not apply.



Slight's Standard Oil Filling Station

4.2.9 Archaeological Resources/Section 106 Review

An archival and literature search was conducted in the spring of 1999 to identify previously recorded archaeological sites, cemeteries, and burials within the project vicinity. All previously recorded cemeteries and burial areas were avoided in developing highway alternatives.

| TABLE 4.2.8.3 SECTION 4(f) IMPACTS NORTH SEGMENT – JOHNSON CREEK TO WATERTOWN | | | |
|--|--------------------------------|----|---------------------|
| Site Name | 4(f) Impact Under Alternative: | | Remarks |
| | N1 | N2 | |
| Quarry Park | NO | NO | No land acquisition |
| Slight's Standard Oil Filling Station | NO | NO | No land acquisition |

As discussed in Section III, an archaeological field survey along existing STH 26 and various bypass options was conducted during the summer and fall of 1999, and the spring of 2000. The survey methodology was designed in concurrence with the policies and procedures developed by the State Historic Preservation Office (SHPO), Wisconsin Department of Transportation, Bureau of Environment (BOE), and the Federal Highway Administration (FHWA). Standard archaeological procedures were followed according to Guidelines for Conservation Archaeology in Wisconsin (revised 1997), published by the Wisconsin Archaeological Survey. Prior to the field survey, a field meeting was conducted with the SHPO's archaeologist to review the project site.

The survey methodology consisted of conducting Phase 1 archaeological field investigations along existing STH 26 in a 150-foot (46-m) corridor on each side of the current right-of-way. Along bypass corridor locations, a sampling survey of study alternatives was conducted in areas classified as "high" probability areas for archaeological site potential, such as river crossings and other areas where the landform characterization was conducive to archaeological site potential. A survey was not conducted for moderate or low probability areas, or in areas where the landowner refused access to their property, therefore all bypass alternatives have the potential for encountering additional archaeological sites. The survey width of bypass corridor alternatives was 400 feet (120 m).

Archaeological field investigations resulted in the identification of 51 sites. Of these, 13 sites are recommended as not eligible for the National Register of Historic Places (NRHP) with no further investigation required. Another 12 sites are outside the estimated right-of-way boundaries of the Detailed Study Alternatives and will be avoided. The remaining 26 sites will require further testing (Phase II investigation) to determine their eligibility for the NRHP. Table 4.2.9-1 summarizes the results of the archaeological field investigations. The location of archaeological sites potentially impacted by a detailed study alternative are shown in Figures 4.2.9-1 (South Segment), 4.2.9-2 (Central Segment), and 4.2.9-3 (North Segment).

Table 4.2.9-2 provides a summary of archaeological sites potentially impacted by a detailed study alternative. Following is a summary of sites identified within the South Segment (Janesville to Ft. Atkinson) that are potentially impacted by a detailed study alternative and that require further study to determine eligibility for the NRHP:

- Along Alternative S2 there are a total of 5 archaeological sites requiring further study to determine eligibility for the NRHP. Two are Historic Euro-American sites, and 3 are Prehistoric Native American (with 1 being possible Woodland) sites.

**TABLE 4.2.9-1
IDENTIFIED ARCHAEOLOGICAL SITES**

| Arch Site No. | Alternative | Component | Description | Eligibility |
|------------------------|-------------|-----------------------------|-------------------|----------------------|
| South Segment | | | | |
| JE902; 8JE101 | S2, S3 | Prehistoric Native American | Possible Campsite | Potentially Eligible |
| JE 1076 | S2, S3 | Historic Euro-American | Historic Scatter | Potentially Eligible |
| JE 1075 | S2, S3 | Historic Euro-American | Structures | Potentially Eligible |
| RO 385 | S2, S3 | Prehistoric Native American | Lithic Scatter | Not Eligible |
| RO 384 | S2, S3 | Prehistoric Native American | Isolate | Not Eligible |
| RO 183 | S2, S3 | Prehistoric Native American | Lithic Scatter | Potentially Eligible |
| RO 183 | S2, S3 | Prehistoric Native American | Isolate | Potentially Eligible |
| RO 387 | S3 | Prehistoric Native American | Lithic Scatter | Not Eligible |
| RO 386 | None | Prehistoric Native American | Not in Alt ROW | Potentially Eligible |
| Central Segment | | | | |
| JE 1068 | C1,C2,C3,C4 | Prehistoric Native American | Lithic Scatter | Potentially Eligible |
| JE 1067 | C1, C2, C3 | Prehistoric Native American | Isolate | Not Eligible |
| JE 362 | STH 26 | Prehistoric Native American | Isolate | Potentially Eligible |
| JE 362 | STH 26 | Prehistoric Native American | Lithic Scatter | Potentially Eligible |
| JE 1074 | STH 26 | Historic Euro-American | Brewery Caverns | Potentially Eligible |
| JE 1066 | None | Prehistoric Native American | Not in Alt ROW | Potentially Eligible |
| JE 1072 | C2 | Prehistoric Native American | Lithic Scatter | Potentially Eligible |
| JE 1071 | C2 | Prehistoric Native American | Isolate | Not Eligible |
| JE 677 | None | Prehistoric Native American | Not in Alt ROW | Potentially Eligible |
| JE 1070 | C2 | Prehistoric Native American | Lithic Scatter | Potentially Eligible |
| JE 215 | None | Prehistoric Native American | Not in Alt ROW | Not Eligible |
| JE 1069 | None | Prehistoric Native American | Not in Alt ROW | Potentially Eligible |
| JE 1091 | C1 | Prehistoric Native American | Lithic Scatter | Potentially Eligible |
| JE 681 | C1, C2 | Prehistoric Native American | Lithic Scatter | Potentially Eligible |
| JE 1090 | C1 | Prehistoric Native American | Campsite | Potentially Eligible |
| JE 675 | C1 | Prehistoric Native American | Campsite | Potentially Eligible |
| JE 1092 | None | Prehistoric Native American | Not in Alt ROW | Eligible |
| JE 763 | C1 | Prehistoric Native American | Campsite | Potentially Eligible |
| JE 1093 | C1 | Prehistoric Native American | Isolate | Not Eligible |
| JE 1094 | C1 | Prehistoric Native American | Campsite | Potentially Eligible |
| JE 489 | None | Prehistoric Native American | Not in Alt ROW | Potentially Eligible |
| JE 471 | None | Prehistoric Native American | Not in Alt ROW | Potentially Eligible |
| JE 1065 | C3, C4 | Prehistoric Native American | Lithic Scatter | Potentially Eligible |
| JE 507 | C3, C4 | Prehistoric Native American | Lithic Scatter | Potentially Eligible |
| JE 512 | C3, C4 | Prehistoric Native American | Campsite | Potentially Eligible |
| JE 1064 | C3, C4 | Prehistoric Native American | Lithic Scatter | Potentially Eligible |
| JE 1062 | None | Prehistoric Native American | Not in Alt ROW | Eligible |
| North Segment | | | | |
| DO 594 | N1, N2 | Prehistoric Native American | Lithic Scatter | Potentially Eligible |
| DO 670 | N1, N2 | Unknown Prehistoric | Campsite | Potentially Eligible |
| DO 669 | N1, N2 | Prehistoric Native American | Lithic Scatter | Potentially Eligible |
| DO 668 | N1, N2 | Prehistoric Native American | Isolate | Not Eligible |
| DO 671 | N1, N2 | Prehistoric Native American | Lithic Scatter | Potentially Eligible |
| DO 667 | None | Historic Euro-American | Not in Alt ROW | Potentially Eligible |
| JE 1081 | N2 | Prehistoric Native American | Isolate | Not Eligible |
| JE 1080 | N1, N2 | Prehistoric Native American | Lithic Scatter | Potentially Eligible |
| JE 1073 | N1, N2 | Prehistoric Native American | Isolate | Not Eligible |
| JE 1029 | N1, N2 | Historic Euro-American | Historic Scatter | Potentially Eligible |
| JE 1078 | N1 | Prehistoric Native American | Isolate | Not Eligible |
| JE 1077 | N1 | Prehistoric Native American | Isolate | Not Eligible |
| JE 1079 | N2 | Prehistoric Native American | Lithic Scatter | Potentially Eligible |
| JE 288 | None | Prehistoric Native American | Not in Alt ROW | Not Eligible |
| JE 185 | None | Historic Native American | Not in Alt ROW | Potentially Eligible |

Note: Modifications C2(a) and C2(b) would impact the same sites as Alternative C2 along existing STH 26. The bypass portions of these alignments have not been investigated but are anticipated to contain approximately the same quantity of sites as Alternative C2.

| TABLE 4.2.9-2 ARCHAEOLOGICAL SITES POTENTIALLY IMPACTED | | | | | |
|--|------------------------------|--------------------------------------|-----------------------------|--------------------------------------|-------|
| Alternative | Number of Sites Not Eligible | Number of Sites Potentially Eligible | | | Total |
| | | Historic Euro-American | Prehistoric Native American | Historic Euro-American & Prehistoric | |
| South Segment | | | | | |
| S2 | 2 | 2 | 2 | 0 | 7 |
| S3 | 3 | 2 | 3 | 0 | 8 |
| Central Segment | | | | | |
| C1 | 2 | 0 | 7 | 0 | 9 |
| C2* | 2 | 0 | 4 | 0 | 6 |
| C3 | 1 | 0 | 5 | 0 | 6 |
| C4 | 0 | 0 | 5 | 0 | 5 |
| North Segment | | | | | |
| N1 | 4 | 1 | 4 | 1 | 10 |
| N2 | 3 | 1 | 6 | 1 | 11 |
| Totals | | | | | |
| | 17 | 6 | 36 | 2 | 61 |

* Modifications C2(a) and C2(b) would impact the same sites as Alternative C2 along existing STH 26. The bypass portions of these alignments have not been investigated but are anticipated to contain approximately the same quantity of sites as Alternative C2.

- Along Alternative S3 there are a total of 5 archaeological sites requiring further study to determine eligibility for the NRHP. Two are Historic Euro-American sites, and 3 are Prehistoric Native American (with 1 being possible Woodland) sites.

Following is a summary of sites identified within the Central Segment (Ft. Atkinson to Johnson Creek) that are potentially impacted by a detailed study alternative and require further study to determine eligibility for the NRHP:

- Along Alternative C1 there are a total of 7 archaeological sites requiring further study to determine eligibility for the NRHP. All are Prehistoric Native American sites.
- Along Alternative C2 there are a total of 4 archaeological sites requiring further study to determine eligibility for the NRHP. All are Prehistoric Native American sites.
- Along Alternative C3 there are a total of 5 archaeological sites requiring further study to determine eligibility for the NRHP. All are Prehistoric Native American sites.
- Along Alternative C4 there are a total of 5 archaeological sites requiring further study to determine eligibility for the NRHP. All are Prehistoric Native American sites.

Any bypass alternative on the west side of Jefferson would require crossing both the Crawfish and Rock Rivers as well as the area between the rivers. Similarly, any bypass alternative on the east side of Jefferson would require a crossing of the Rock River. Based on the archival and literature search and field investigations, approximately the same density and significance of archaeological sites would occur with any east side bypass alternative crossing of the Rock River as compared with any west side bypass alternative crossing of the Crawfish and Rock Rivers.

Following is a summary of sites identified within the North Segment (Johnson Creek to Watertown) potentially impacted by a detailed study alternative and require further study to determine eligibility for the NRHP:

- Along Alternative N1 there are a total of 6 archaeological sites requiring further study to determine eligibility for the NRHP. Four are Prehistoric Native American sites, 1 is an Unknown Prehistoric/Historic Euro-American site, and 1 is a Historic Euro-American site.
- Along Alternative N2 there are a total of 8 archaeological sites requiring further study to determine eligibility for the NRHP. Six are Prehistoric Native American sites, 1 is an Unknown Prehistoric/Historic Euro-American site, and 1 is a Historic Euro-American site.

Once a preferred alternative has been identified, the Phase 1 field investigation will be completed for those portions of the preferred alternative not investigated previously. Consultation will be undertaken with the SHPO and Native American tribal representatives expressing an interest in the project. Phase II investigations will be conducted for those potentially eligible sites along the preferred alternative to further evaluate their eligibility. All Section 106 requirements will be fulfilled prior to the submittal of the Final Environmental Impact Statement (FEIS).

4.2.10 Historic Resources/Section 106 Review

4.2.10.1 South Segment

As discussed in Section III, there are nine historic properties in the City of Milton along STH 26 and within an area of potential effect (APE) that are listed, or eligible for listing, on the National Register of Historic Places (NRHP). One of these properties is the Milton House, a National Historic Landmark.

Under the No Build alternative, property would not be acquired from the above-identified historic resources. Negative impacts that will increasingly become significant are associated with traffic, i.e., access, noise, vibration, visual effects, safety and difficulty crossing the roadway.

Existing Average Daily Traffic (ADT) volume along STH 26 is 13,800 vehicles in the City of Milton and 10,400 vehicles north of the city near the William Graham Farmhouse. With the No Build alternative, these volumes are forecasted to increase to 25,000 and 20,000 vehicles respectively by 2028. About 14 percent of the total traffic volumes are trucks.

In the City of Milton, the existing noise level at the Milton House, which is about 6 feet (2 m) from the edge of STH 26, is 75 decibels. This level already exceeds the 67-decibel noise abatement criteria (NAC) level that defines when a traffic noise impact occurs. Under the No Build alternative, by the year 2028, the noise level is projected to increase to 78 decibels.

Approximately 8,000 visitors per year visit the Milton House and associated museum. Many of these visitors are school children, and many use the parking facility located across STH 26 in North Goodrich Park. Traffic volumes, including trucks, would increase under the No Build alternative, resulting in more difficult pedestrian crossing of STH 26 and increased safety concerns. In addition, the increase in traffic would result in adverse visual impacts to all the identified historic resources within the City of Milton.

Alternatives S2 and S3 will not cause any negative change in the quality of the historical or architectural characteristics of the identified historic resources described above. Under Alternatives S2 and S3, land would not be acquired from any of the sites. A preliminary assessment of effects concludes that there is no effect on the historic properties in the City of Milton. Coordination with the SHPO is ongoing, and all Section 106 requirements will be fulfilled prior to the submittal of the FEIS.

Alternatives S2 and S3 generally follow the existing highway but with relocated bypass alignments in Milton that were developed in part to avoid the historic resources within the city. Both S2 and S3 are located about 3,500 feet (1,070 m) east of existing STH 26, the Milton House, and other historic properties. Both alternatives would remove trucks from the existing route, and would have similar beneficial noise effects at historic properties located on or near existing STH 26 in the city. Both will enhance safety features on the existing roadway such as pedestrian crossings and vehicular access at side roads due to reduced traffic on the existing highway.

4.2.10.2 Central Segment

In the City of Jefferson, two historic properties along STH 26 are listed on the NRHP. One is the Jefferson Public Library building, and the other is the Main Street Commercial Historic District. The Main Street Commercial Historic District is located on 12 blocks in Jefferson's traditional downtown and has 25 buildings adjacent to existing STH 26 that contribute to the district. In addition, there are eight other historic properties along STH 26 in Jefferson that are potentially eligible for the NRHP. In the rural area east of Jefferson, the St. Coletta School Historic District is on the NRHP. Alverno Cottages, a discontinuous property of the St. Coletta School Historic District, has been determined eligible for the NRHP. The historic boundaries for the St. Coletta School Historic District and Alverno Cottages are shown on Figure 4.2.10-1.

Under the No Build alternative, property would not be acquired from the above-identified historic resources. Negative impacts that will increasingly become significant are associated with traffic, i.e., access, noise, vibration, visual effects, safety and difficulty crossing the roadway.

Existing ADT volume along STH 26 is 15,900 vehicles in the City of Jefferson in the area of the Jefferson Public Library and the Main Street Commercial Historic District, and 14,700 vehicles in the area of the remaining potentially eligible historic structures. With the No Build alternative, these volumes are forecasted to increase to 31,000 and 28,000 vehicles respectively by 2028. About 14 percent of the total traffic volumes are trucks.

In the City of Jefferson, the existing noise level at the Jefferson Public Library and within the Main Street Commercial Historic District is 72 decibels. This level already exceeds the 67-decibel NAC level for libraries and the 72-decibel NAC level for developed commercial properties. Under the No Build alternative, by the year 2028, the noise level is predicted to increase to 75 decibels. In the area of the remaining historic properties in Jefferson, the existing noise level is 68 decibels, exceeding the 67-decibel NAC level for residential properties. By 2028, the noise level is projected to increase to 71 decibels.

Existing STH 26 travels through the Main Street Commercial Historic District and functions as the local access route to the Jefferson Public Library and downtown shops. Traffic volumes, including trucks, will increase under the No Build alternative, resulting in more difficult pedestrian and vehicular crossings of STH 26, more difficult parking, and increased safety concerns. In addition, the increase in truck traffic would result in adverse visual impacts on all the identified historic properties within the City of Jefferson.

Alternatives C1, C2, C3, and C4 would not cause any negative change in the quality of the historical or architectural characteristics of the identified historic properties described above. Land would not be acquired from any of the historic sites. A preliminary assessment of effects concludes that it appears there is no effect on the historic properties in the City of Jefferson under all build alternatives. Additionally, it appears there is no effect on the St. Coletta School Historic District and Alverno Cottages under Alternatives C1, C2, and C4, and no adverse effect on these historic sites under Alternative C3. Coordination with the SHPO is ongoing, and all Section 106 requirements will be fulfilled prior to the submittal of the FEIS.

For the purposes of this discussion, the two slight modifications of Alternative C2 west of the City of Jefferson, referred to as C2(a) and C2(b), have similar impacts as Alternative C2. Therefore, Alternative C2 will only be discussed throughout the remainder of this topic unless otherwise stated.

Alternatives C1 and C2 generally follow the existing highway with a west side bypass of the City of Jefferson. These alternatives are located a minimum of 1.5 miles (2.4 km) west of the historic properties in Jefferson, and are on the opposite side of the city from the St. Coletta School Historic District and Alverno Cottages. Both alternatives would remove trucks from the existing route through the city, and both would enhance pedestrian safety and lessen noise levels at historic properties located in the city due to reduced traffic on the existing highway.

Alternative C3 generally follows the existing highway with an east side bypass of the City of Jefferson. This alternative is located about 1 mile (1.6 km) east of the historic properties in Jefferson, about 1,200 feet (365 m) west of the St. Coletta School Historic District, and about 600 feet (183 m) west of Alverno Cottages. Visibility of Alternative C3 from Alverno Cottages will be minimal due to a large forested area between the complex and the proposed alternative. Land would not be acquired from any of the historic properties under this alternative.

Currently, access to the St. Coletta School Historic District is from USH 18 and CTH Y. Access to Alverno Cottages is from CTH Y. Alternative C3 will not isolate these historic properties or change access to them. The proposed improvement would travel through lands that are currently agricultural and separate the historic district and Alverno Cottages from the City of Jefferson. However, these lands are within Jefferson's urban service area planned for future development. Alternative C3 would not impair the capability of these historic properties to perform their function with respect to either current land use or as historic resources. The existing noise level at both the St. Coletta School Historic District and Alverno Cottages is 55 decibels. For the design year, 2028 this level is predicted to remain at 55 decibels under Alternative C3, and would not approach the 67-decibel NAC level for schools, churches, and residences.

Alternative C4 is also an east side bypass of the City of Jefferson. This alternative is located about 1,600 feet (485 m) east of the St. Coletta School Historic District, and about 3,800 feet (1,160 m) east of Alverno Cottages. Due to the terrain of the area, there would be minimal visibility of this alternative from either historic site. Both Alternatives C3 and C4 would remove trucks from the existing route through the city, and would lessen noise levels at historic properties located in the city. Both will enhance safety features on the existing roadway such as pedestrian crossings and vehicular access at side roads due to reduced traffic on the existing highway.

4.2.10.3 North Segment

In the City of Watertown, six historic properties along STH 26 are eligible for listing on the NRHP. Among these are the North Washington Historic District with 35 buildings along STH 26, the South Washington Historic District with 14 buildings along STH 26, and the St. Bernard Catholic Church complex with three buildings along STH 26. The remaining properties are individual historic structures. In the rural area north of Watertown, Slight's Standard Filling Station at the intersection of STH 26 and Kiln Road has been determined eligible for the NRHP. The historic boundaries for Slight's Standard Filling Station are shown on Figure 4.2.10-2.

Under the No Build alternative, land would not be acquired from the above-identified historic properties. Negative impacts that will increasingly become significant are associated with traffic, i.e., access, noise, vibration, visual effects, safety and difficulty crossing the roadway.

Existing ADT volume along STH 26 is 19,600 vehicles in the City of Watertown south of STH 19 and in the vicinity of the South Washington Historic District and the St. Bernard Catholic Church complex. North of STH 19, and in the area of the North Washington Historic District, the existing ADT volume is 13,900 vehicles. With the No Build alternative, these volumes are forecasted to increase to 37,000 and 26,000 vehicles respectively by 2028. About 11 percent of the total traffic volumes south of STH 19, and 18 percent north of STH 19, are trucks.

In the City of Watertown the existing noise level is 73 decibels along the South Washington Historic District, and 71 decibels along the North Washington Historic District, both exceeding the 67 residential decibel NAC level. Under the No Build alternative, by the year 2028 the noise level is predicted to increase to 76 and 73 decibels respectively. At Slight's Standard Filling Station north of Watertown, the existing noise level is 69 decibels with a projected increase to 72 decibels.

Existing STH 26 goes through both the South and North Washington Historic Districts and is adjacent to the other historic properties identified above. This route not only functions as the main route for north-south regional and statewide destination traffic, but also provides the local and regional access for east-west traffic on STH 19. This route also provides for local internal circulation traffic within the city to access commercial sites including the downtown area, regional school facilities, employment sites, and residential areas. Traffic volumes, including trucks, would increase under the No Build alternative, resulting in more difficult pedestrian and vehicular crossings of STH 26 and increased safety concerns. In addition, the increase in truck traffic would result in adverse visual impacts to all the identified historic properties within the City of Watertown.

Alternatives N1 and N2 will not cause any negative change in the quality of the historical or architectural characteristics of the identified historic properties described above. Land would not be acquired from any of the historic sites. A preliminary assessment of effect concludes that there is no effect on the historic resources in the City of Watertown under Alternatives N1 or N2. Additionally, it appears there would be no effect under Alternative N1, and no adverse effect under Alternative N2, on Slight's Standard Filling Station north of Watertown. Coordination with the SHPO is ongoing, and all Section 106 requirements will be fulfilled prior to submittal of the FEIS.

Alternative N1 generally follows the existing highway with a west side bypass of the City of Watertown that extends north of Kiln Road before it rejoins the existing highway. This alternative is located about 2 miles (3.2 km) west of the historic properties in the city, and about 900 feet (275 m) west of Slight's Standard Filling Station. Alternative N1 would remove truck traffic from the existing route through the

city, and would lessen noise levels at the historic properties located in the city. This alternative will enhance safety features on the existing roadway such as pedestrian crossings and vehicular access at side roads due to reduced traffic on the existing highway.

Alternative N2 generally follows the existing highway with an east side bypass of the City of Watertown. This alternative is located about 1.6 miles (2.6 km) east of the historic resources in the city. Alternative N2 would remove truck traffic from the existing route through the city, and would lessen noise levels at those historic properties within the city. This alternative will enhance safety features on the existing roadway such as pedestrian crossings and vehicular access at side roads due to reduced traffic on the existing highway.

Slight's Standard Filling Station north of Watertown is located about 53 feet (16 m) from the pavement edge of existing STH 26. The filling station is located on a farm parcel that includes a farmhouse and agricultural outbuildings. Two industrial warehouses were erected in 1998 just south of the farmhouse. In earlier times, the Slight family operated a "cabin camp" with five tourist cabins, a bathhouse, and space for pitching tents adjacent to the filling station. The bathhouse has been converted to a garage and the cabins have been removed.

Under Alternative N2, the existing highway would be expanded from 2-lanes to 4-lanes at the filling station site. The expansion would occur on the opposite side of the highway at this historic property, and land would not be acquired from the site. Currently access to Slight's Standard Filling Station is from STH 26. Alternative N2 would not isolate the property, but could shift the access location slightly in order to control access along STH 26. Currently, the filling station does not function as an operating gasoline station and is in the owner's yard as a decorative feature. Alternative N2 would not impair the capability of this property to perform its function with respect to either current land use or as a historic resource. Existing noise level at this site is 69 decibels. By 2028, this level is predicted to increase to 70 decibels. The proposed highway under Alternative N2 will remain at approximately the same grade elevation as the existing highway at this property, and visual impacts would be related to the roadway expansion from 2-lanes to 4-lanes.

4.2.11 Hazardous Materials

Table 4.2.11 summarizes the results of the hazardous materials site assessments for the Build Alternatives. Sites potentially affected by the alternatives were rated from "A" to "D" with a rating of "A" being of highest potential concern and "D" being of lowest potential concern. Sites were generally rated as follows:

- "A" - Known contaminated sites
- "B" - Known contaminated sites that have been closed out by DNR, known underground storage tank (UST) sites (current or former), known agricultural chemical mixing/loading/storage facilities, known solid waste landfills
- "C" - Active farms, existing aboveground storage tanks (AST), existing drums, known RCRA generators, known salvage operations
- "D" - Former farms, possible hazardous materials handling, possible former gasoline sales, possible former fuel storage, known sites with fill materials, railroad crossings

TABLE 4.2.11
SUMMARY OF HAZARDOUS MATERIAL SITE RATINGS

| Corridor Alternatives | Level of Concern | | | | Total Number of Sites |
|------------------------------------|------------------|-----|----|----|-----------------------|
| | High | Low | | | |
| | A | B | C | D | |
| Milton Bypass S2 | 0 | 2 | 3 | 6 | 11 |
| Milton Bypass S3 | 0 | 1 | 7 | 7 | 15 |
| Existing Route, North of Milton | 1 | 7 | 13 | 18 | 39 |
| Existing Route, South of Jefferson | 0 | 1 | 0 | 4 | 5 |
| Jefferson Bypass C1 | 0 | 4 | 8 | 16 | 28 |
| Jefferson Bypass C2* | 0 | 3 | 4 | 13 | 20 |
| Jefferson Bypass C3 | 0 | 3 | 6 | 12 | 21 |
| Jefferson Bypass C4 | 0 | 5 | 7 | 8 | 20 |
| Existing Route, North of Jefferson | 0 | 1 | 3 | 8 | 12 |
| Existing Route, South of Watertown | 0 | 7 | 8 | 9 | 24 |
| Watertown Bypass N1 | 0 | 8 | 23 | 9 | 40 |
| Watertown Bypass N2 | 0 | 9 | 12 | 10 | 31 |
| Existing Route, North of Watertown | 2 | 4 | 27 | 11 | 44 |

* Modifications C2(a) and C2(b) would impact the same sites as Alternative C2 along existing STH 26. The bypass portions of these alignments have not been investigated but are anticipated to contain approximately the same quantity of sites as Alternative C2.

In all three segments, the number of potential hazardous sites varies little between the alternatives. Slight differences in the total number of sites are primarily sites rated as “C” or “D,” representing sites of lower concern. Only three known contaminated sites were discovered. All of these sites are along the existing route, one north of Milton and two north of Watertown. The site north of Milton is owned by the DNR and is part of the State Environmental Restoration Program. Treatment is currently being done at the site completion of the cleanup is expected by 2001. The two known contaminated sites north of Watertown are sites that contain active leaking underground storage tanks.

Following the selection of a Preferred Alternative, Phase II investigations, which consist of soil sampling and analysis, will be conducted for sites potentially impacted by the Preferred Alternative. The WDNR and potentially affected parties will be notified of the results of the sites warranting further evaluation and potential remediation. WisDOT will work with all concerned to ensure that the disposition of any hazardous material contamination is resolved to the satisfaction of the WDNR, WisDOT Bureau of Environment, and the Federal Highway Administration before construction contract approval.

4.2.12 Air Quality

4.2.12.1 No Build Alternative

Under the No-Build Alternative, traffic volumes along STH 26 are projected to increase. The increased traffic volume will cause unstable traffic flow, lower levels of service, increased traffic congestion, and longer waiting times at intersections. The result of these impacts is an increase in vehicle emissions.

4.2.12.2 Build Alternatives

According to the Intermodal Surface Transportation Efficiency Act (1991), a federal agency may not approve or fund a transportation project unless it conforms to the State Implementation Plan (SIP) for air quality. To conform to the SIP, a project cannot (1) cause or contribute to a new violation of any National Ambient Air Quality Standard (NAAQS), (2) increase the frequency or severity of any existing violation of any NAAQS, and (3) delay timely attainment of any NAAQS or any required interim emissions reductions or other milestones. At state and regional levels, ozone non-attainment areas are of concern in conforming to the SIP. Rock, Jefferson, and Dodge Counties are not designated as ozone non-attainment areas and, therefore, the proposed project conforms to the SIP. The conformity procedures of 23 CFR 770 do not apply.

Carbon monoxide (CO) is the only motor vehicle pollutant currently analyzed. The NAAQS criteria for an adverse CO impact are an exceedence of the one-hour standard of 35 parts per million (ppm) or the eight-hour average of 9 ppm. For highway projects, the worst case scenario for producing CO is analyzed in compliance with Section NR 411 of the Wisconsin Administrative Code.

A screening analysis based on a line source dispersion model (computer programs Mobile 5a and CAL3QHC) was used to predict CO levels at the proposed intersection of Linmar Lane and STH 26, which represents the worst case scenario for the entire 48 miles (29 km) of this project. This analysis to predict the maximum CO concentrations was conducted in 1998 for the scheduled 2001 improvement project at Johnson Creek (Project I.D. 1067-01-02). Table 4.2.12.2 summarizes the results of the analysis. The analysis predicted CO concentrations to be less than 75 percent of the NAAQS (for 2001 or 2011) (1-hr peak or 8-hr average). According to the WDNR's letter dated May 4, 1998, (see Appendix A) no air pollution control permit is required for this project.

| TABLE 4.2.12.2 MAXIMUM PROJECTED CARBON MONOXIDE (CO) CONCENTRATIONS | | | | |
|---|---|-------------------------------------|---------------------------------|-------------------------------------|
| Receptor Location or Site Description (See Figure E3) | Carbon Monoxide (ppm) ⁽¹⁾ STH 26/Linmar Lane Intersection | | | |
| | 1 - Hour Peak ⁽²⁾ | | 8 - Hour Average ⁽³⁾ | |
| | Construction Year | Construction Year Plus Ten Years | Construction Year | Construction Year Plus Ten Years |
| | 2001 | 2011 | 2001 | 2011 |
| Receptor 1 (A1) | 8.4 | 8.3 | 4.3 | 4.3 |
| Receptor 2 (A2) | 10.2 | 10.2 | 5.3 | 5.2 |
| Receptor 3 (A3) | 8.8 | 8.2 | 4.8 | 4.6 |
| Receptor 4 (A4) | 6.9 | 7.1 | 3.8 | 3.8 |
| Receptor 5 (A5) | 9.0 | 9.2 | 4.5 | 4.6 |

⁽¹⁾ ppm = parts per million – parts of CO per million parts of gas.

⁽²⁾ Includes 1-hour ambient background CO concentration of 4.7 ppm.

⁽³⁾ Includes 8-hour ambient background CO concentration of 2.9 ppm.

4.2.13 Noise

4.2.13.1 No-Build Alternative

Under the No Build alternative, noise levels will continue and likely increase as traffic volumes increase. In the urban areas, higher speed noise will likely be replaced by stop and start and idling noise as congestion builds. It is estimated that 414 residences and 120 businesses will experience noise impacts in the design year 2028.

4.2.13.2 Build Alternatives

The criteria defining traffic noise impacts have been established by WisDOT through Wisconsin Administration Code – Chapter Trans 405, Siting Noise Barriers (Trans 405). Traffic noise impacts occur when the predicted equivalent sound levels approach* or exceed the noise level criteria (NLC) established for a type of land use, or, when predicted sound levels substantially exceed existing levels. WisDOT has determined “approach” to be defined as 1 dBA less than the NLC. WisDOT has determined “substantial increase” to be 15 dBA or more than existing levels. TRANS 405 was approved as WisDOT’s written policy by FHWA on February 29, 1996. The NLC established as part of Trans 405 are shown in Table 4.2.13.2. Noise impacts for the various alternatives are compared based on the number of receptors that approach or exceed the activity category and/or experience a substantial increase. Noise receptors are defined by the Department as “lower-level, front-abutting units” that receive highway noise.

- TRANS 405.04(2)(b) uses the word “equal” instead of “approach”, however additional FHWA guidance following promulgation of TRANS 405 required that the word “approach” be used when determining noise impacts.

| TABLE 4.2.13.2-1 NOISE LEVEL CRITERIA FOR CONSIDERING BARRIERS | | |
|--|---------------|---|
| Activity Noise Abatement Criteria (dBA) Land Use $L_{eq}(h)^1$ Category (dBA) | | Description of Land Use Category |
| A | 57 (Exterior) | Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose. |
| B | 67 (Exterior) | Picnic area, recreation areas, playgrounds, active sports areas, and parks not included in Category A and residences, motels, hotels, public meeting rooms, schools, churches, libraries, and hospitals. |
| C | 72 (Exterior) | Developed lands, properties, or activities not included in Categories A and B above. |
| D | --- | Undeveloped lands. |
| E ² | 52 (Exterior) | Residences, motels, public meeting rooms, churches, libraries, hospitals, and auditoriums. |

¹ “ L_{eq} ” means the equivalent steady -state sound level, which in a stated period of time contains the same acoustic energy as the time-varying sound level during the same period. For purposes of measuring or predicting noise levels, a receptor is assumed to be at ear height, located five feet above the ground surface.

“ $L_{eq}(h)$ ” - The hourly value of L_{eq}

² Use of interior noise levels shall be limited to situations where exterior noise levels are not applicable.

History: Cr. Register, August, 1989, No. 404, eff. 9-1-89.

Measurements of existing sound levels were done using a Model Q-300 Noise Dosimeter. Predicting future traffic noise at representative worst case receivers along the project corridors was performed using FHWA's Stamina 2.0 computer program and the FHWA Traffic Noise Model Look-Up Tables. The sound level reading and modeling locations for the Build Alternatives are shown on Exhibits 5, 6, and 7. The sound level reading and modeling locations for the No-Build Alternatives and the Johnson Creek Noise Analysis are shown on Figures E1 through E4 in Appendix E. The Traffic Noise Impact Summary is shown on Table 4.2.13, with a more detailed listing of impacts on Tables E1 through E16 in Appendix E.

| TABLE 4.2.13.2-2 | | |
|--|--|--|
| TRAFFIC NOISE IMPACT SUMMARY (Design Year 2028) | | |
| ALTERNATIVE | RECEIVER LOCATION | NUMBER OF RECEIVERS IMPACTED |
| South Segment | | |
| No-Build | City of Milton Rural | 67 Residences, 26 Businesses, 1 School 7 Residences |
| Alternative S2 | Along Alternative S2 STH 26 | 9 Residences, 1 Business 41 Residences, 7 Businesses |
| Alternative S3 | Along Alternative S3 STH 26 | 16 Residences, 2 Businesses 41 Residences, 7 Businesses |
| Central Segment | | |
| No-Build | Fort Atkinson Bypass N. Bus. 26 Interchange to Collins Rd. City of Jefferson City Limits to CTH Y | 3 Residences 3 Residences 157 Residences, 53 Businesses 29 Residences |
| Alternative C1 | Along Alternative C1 STH 26 | 21 Residences, 2 Businesses 146 Residences, 10 businesses |
| Alternative C2 | Along Alternative C2 STH 26 | 19 Residences, 3 Businesses 146 Residences, 10 businesses |
| Alternative C3 | Along Alternative C3 STH 26 | 21 Residences, 1 Business 146 Residences, 10 businesses |
| Alternative C4 | Along Alternative C4 STH 26 | 4 Residences, 1 Business 146 Residences, 10 businesses |
| Johnson Creek | City of Johnson Creek | 25 Residences, 1 Recreation Area, 1 Business |
| North Segment | | |
| No-Build | Baneck Lane to Airpark Rd. City of Watertown City Limits to STH 60 East | 45 Residences 162 Residences, 50 Businesses 19 Residences |
| Alternative N1 | Along Alternative N1 STH 26 1500' North of Endeavour Dr. to CTH Q | 65 Residences, 1 Business 186 Residences, 23 Businesses 4 Residences |
| Alternative N2 | Along Alternative N2 STH 26 | 26 Residences, 8 Businesses 162 Residences, 17 Businesses |

Table includes relocations.

Noise Impacts

South Segment

For the No-Build Alternative, five receptors representing 83 receivers were analyzed in the rural areas and fifteen receptors representing 123 receivers were analyzed in the city of Milton. Along STH 26, 67 residences, 26 businesses, and 1 school will be impacted in the urban areas, and 7 residences would be impacted in the rural areas under the No-Build Alternative.

Along Alternative S2, noise impacts will occur at 9 residences and 1 business. Alternative S3 will impact 16 residences and 2 businesses. Compared to the No-Build Alternative, Alternatives S2 and S3 will reduce the noise impacts along existing STH 26 from 67 residences, 26 businesses, and 1 school to 41 residences and 7 businesses.

Central Segment

For the No-Build Alternative, eleven receptors representing 147 receivers were analyzed in the rural areas and 12 receptors representing 242 receivers were analyzed in the city of Jefferson. Along the existing Fort Atkinson Bypass, 3 residences will be impacted. From the North Business Interchange to Collins Road in Jefferson, 3 residences will be impacted. In the city of Jefferson, approximately 157 residences and 53 businesses will be impacted by noise. Outside the Jefferson city limits to CTH Y, 29 residences will be impacted.

Along Alternative C1, 21 residences and 2 businesses will be impacted. Alternative C2 will impact 19 residences and 3 businesses. Alternative C3 will impact 21 residences and 1 business, and Alternative C4 will result in 4 residences and 1 business being impacted. In the city of Jefferson, along existing STH 26, Alternatives C1, C2, C3, or C4 will result in 146 residences being impacted and 10 businesses impacted.

In Johnson Creek, all of the build alternatives will result in 25 residences, 1 recreation area, and 1 business being impacted.

North Segment

For the No-Build Alternative, twelve receptors representing 103 receivers were analyzed in the rural areas and 21 receptors representing 247 receivers were analyzed in the city of Watertown. From Baneck Lane to Airpark Road, the No-build Alternative will result in 45 residences being impacted. Along STH 26 in the city of Watertown, 162 residences and 50 businesses will be impacted. From the city limits of Watertown to STH 60 East, 19 residences will be impacted.

Alternative N1 will result in 65 residences and 1 business being impacted by highway noise. Along existing STH 26, with Alternative N1 present, 186 residences and 26 businesses will be impacted. With Alternative N1 present, the section of STH 26 1500 feet (458 m) north of Endeavour Drive to CTH Q will result in four residences impacted by traffic noise.

Alternative N2 will result in 26 residences and 8 businesses being impacted along the alignment. STH 26 will have 162 residences and 17 businesses impacted with the existence of the N2 Alternative. This lowers the noise impacts in the city of Watertown by 33 businesses.

Noise Abatement

When traffic noise impacts occur, measures to reduce or eliminate impacts should be considered by the project sponsor where such impacts are determined “reasonable and feasible.” Trans 405 mandates that construction of noise barriers must reduce noise levels by 8dBA at a cost of \$30,000 per dwelling unit or less to be considered reasonable. Barriers are feasible where terrain, access, safety, or other physical constraints do not preclude them, and where they are able to achieve a substantial noise reduction..

Noise abatement measures considered for this project included:

- Traffic management measures (e.g., prohibition of trucks).
- Alteration of horizontal or vertical alignment.
- Construction of noise barriers.

Traffic management measures applied to the proposed facility are not deemed reasonable and feasible since this project is intended to improve mobility within the area. Therefore, traffic management abatement measures are not proposed.

The horizontal alignments for the proposed alternatives have been designed to minimize overall impacts, including environmental impacts and impacts to existing development along the corridor. Most of the properties having noise impacts are located along existing STH 26 in the urban areas. Alignment modifications along existing STH 26 are not feasible due to adjacent development. Therefore, alignment modifications in the urban areas for noise abatement purposes are not proposed.

Design features that were considered to minimize noise were depressed roadway, earthen berms, or increased distances from the receptor.

One location along STH 26 in the village of Johnson Creek was identified for further investigation of noise barriers because one receptor representing twelve mobile homes was being impacted, and because the location of the homes made it physically possible to construct an effective barrier. A preliminary design for an effective noise barrier that reduced sound levels by 8dBA required a height of 23 ft. (7 m) and a length of 1050 ft. (320 m). At an estimated construction cost of \$18/SF (\$194/SM), the barrier would cost \$434,000 or \$36,200 per residence. This cost is not considered reasonable for implementing noise abatement. Therefore, noise barriers are not recommended at this site.

Most receptors in the rural areas are single, isolated homes or businesses. On all sites along the project corridor where noise impacts occur, the cost for constructing effective noise barriers is not reasonable and such construction is therefore not recommended.

4.2.14 Visual and Aesthetic Resources

This subsection discusses the anticipated primary and potential secondary impacts to visual resources associated with each alternative under consideration for STH 26. It addresses the character of the new or improved roadway, views of and from the roadway, and the degree of visual impact that would be expected from each alternative.

In general, the visual or aesthetic character of STH 26 is typical of rural highways throughout southern Wisconsin. The visual character of the sections of roadway between communities is dominated by farmsteads, cropland, fallow fields, and low lands covered by shrubs and native hardwoods. Most

individuals viewing the rural countryside find the rolling topography, farmlands, and woodlands pleasing. Some of the older farmsteads with traditional barns and other farm buildings are picturesque and represent a rural landscape type that is rapidly being diminished.

Increasing numbers of rural residences are appearing in the form of both rural subdivisions and scattered rural lots. Many of the newer residences are located on hilltops and ridgelines. Increasing numbers of billboards and other sign advertising is also altering the rural landscape. The changing rural character is an important issue for many residents of the area and has been addressed in most of the locally adopted master plans and other planning documents. In general, most local officials and area residents would prefer to retain more of the traditional farmland and woodlot rural character.

The visual character and aesthetic quality of the roadway generally declines as it approaches incorporated communities. Along the sections STH 26 which are routed through Milton, Jefferson, Johnson Creek, and Watertown, the highway is bordered by a typical array of highway-oriented business, fast-food restaurants, other types of retail and service business. There is a proliferation of both on-site and off-site advertising signage. The roadside character on the outskirts of most of the STH 26 communities is similar to the character of most arterial strips throughout the country. The business mix is a combination of franchise businesses, often occupying “trademark” buildings and locally-owned businesses.

4.2.14.1 No Build Alternative

The No Build Alternative would not directly alter the landscape or visual resources along the corridor. Views of the road and from the road would remain unchanged. However, without more effective local planning and zoning there would be a continuation and expansion of the “arterial strip development” that characterizes the urban sections of the highway, particularly within the outskirts. Without strong local planning and zoning continued rural development and highway signage is likely to continue to degrade many of the rural vistas.

Indirectly there could be an impact due to the continued congestion and truck traffic, which tends to devalue properties along the roadside and contributes to a general decline of maintenance and reinvestment in properties. Downtown revitalization and beautification efforts tend to be impeded where heavy truck and other through-traffic discourages pedestrian circulation and where shoppers are impacted by congestion and access constraints.

In the rural areas, continued congestion on existing roadways makes it more difficult for drivers to enjoy surrounding rural views.

4.2.14.2 South Segment

Alternatives S2 and S3 both create new roadway lanes along existing portions of STH 26 and include approximately five miles of new roadway bypassing the City of Milton.

The greatest changes of aesthetic and visual character would occur in the bypass sections around the City of Milton. Both alternatives would travel through an area on the southeast side of the City of Milton that is proposed for business and industrial park development. The visual character of roadway could be impacted by vistas of light industrial buildings. This impact could be lessened both by local site planning and zoning requirements and by design features of the roadway, which could incorporate berms and vegetation to lessen visual impacts.

North of the eastern Milton business district, Alternative S2 crosses a future residential neighborhood. Again, local site planning and zoning can significantly lessen visual impacts.

Alternative S3 would continue north along the east side of the existing STH 26 corridor. The visual character of this section of roadway would likely be quite pleasing, since the road passes near the two golf courses and the Storr's Lake Wildlife Area. The roadway may be visible and/or audible from the two golf courses and portions of the Storr's Lake Wildlife Area.

Between Milton and Fort Atkinson, the highway would continue along the existing corridor. The construction of a vegetated median strip offers the opportunity to introduce native and/or decorative plant materials that would improve the aesthetics of the corridor. Reductions of the number of driveway and street accesses may help relieve some of the "visual clutter" often associated with roadside businesses.

The control of billboards and rural development is primarily a local planning issue. The actions of Jefferson and Rock Counties and the local towns will influence the visual quality of the roadway, whether or not the highway improvements are constructed.

Both Alternatives S2 and S3 connect to the existing bypass around the west side of Fort Atkinson. There would be no significant changes in the visual roadside aesthetic quality other than the construction of the two additional traffic lanes and the median strip. Planting within the median strip could enhance the visual character of this section.

4.2.14.3 Central Segment

All of the Build Alternatives for the Central Segment create new roadway lanes along existing rural portions of STH 26 and approximately eight miles of new bypass highway around the City of Jefferson.

The visual impacts of Alternative C1 and C2 are similar. Both alternatives bypass on the west side of Jefferson crossing both the Rock and Crawfish Rivers. Both alternatives cross portions of the Jefferson County Farm Property. The vistas and visual impression for drivers on either C1 or C2 would be significantly enhanced over the current views from the existing corridor through the City. Much of the roadway would cross either rural farm property, woodlands or lowlands. The crossing over the two rivers could be quite attractive. This area could be enhanced as a demonstration lowland mitigation project.

From the perspective of the residents of the area, the roadway would alter the rural landscape. The bridges and highway approaches over the two rivers would greatly impact the character of the rivers. Residents in the rural subdivisions along the Rock River north of the City of Jefferson are likely to experience some diminishment of visual character due to the bridge and highway structures.

Alternatives C3 and C4 are east side bypasses, which would result in similar impacts on the east side of Jefferson. The bridge crossing of the Rock River south of Jefferson would impact views and vistas from the river and riverside residences. Alternative C3 crosses the St. Coletta's School property and would have a visual impact on the campus. Alternative C4 would require an interchange midway between the City of Jefferson and the unincorporated hamlet of Helensville. These structures and the accompanying traffic would alter the character of this predominantly rural area.

Alternative C4 creates a new highway corridor between Jefferson and Johnson Creek. The vistas from the highway would be quite attractive since the roadway would border a large lowland area west of CTH Y. The route would bypass the rural development that is gradually infilling the area along the

existing STH 26 corridor between Jefferson and Johnson Creek. Alternative C4 would require an additional grade separation structure for the Glacial Drumlin State Recreation Trail, which could visually impact trail users.

In Johnson Creek all of the Build Alternatives and the No Build Alternative would utilize the planned four-lane improvement which is currently being designed and would be constructed over the next several years.

4.2.14.4 North Segment

In the North Segment, both Alternatives N1 and N2 utilize existing highway corridor between Johnson Creek and the proposed interchange near Turf Drive. Both alternatives would provide an additional two lanes of moving traffic and a grassed median strip, which could provide a significant visual enhancement along the rural section of highway. Both bypasses would reroute motorists around the "arterial strip development" on Church Street in the City of Watertown, particularly on the south side.

Alternative N1 crosses the Rock River west of the current STH 26 alignment. The bridge would have a visual impact on nearby riverfront residents. The vista from the roadway is likely to be attractive and would be an enhancement over the current route through the City. Alternative N1 would go along the western edge of Watertown's long-range urban service area west of the City. There would be new development to the east of the roadway. The area to the west would remain predominantly rural. Local site planning and zoning would have a significant impact on the visual impacts in this area.

With Alternative N2, the bridge structure over the Rock River southeast of Watertown would visually impact residences along River Road. North of the interchange with STH 16, Alternative N2 would add minimal visual impact, since it utilizes the existing STH 16 four-lane corridor.

North of Watertown, both Alternatives N1 and N2 rejoin the existing STH 26 corridor. The construction of two additional traffic lanes and grassed median would not substantially alter the visual character of the rural area. The introduction of native and/or decorative materials in the median could improve the visual character. Local site planning and zoning in the Town of Emmet and Dodge County will have a significant influence on the visual character of the development and signage along the highway. Strong local planning is needed regardless of whether or not the highway improvements are constructed.

Alternative N2 would require two additional lanes along the existing alignment of STH 16 and a new frontage road along the east side of the alignment to allow for access to medical and business facilities. This would affect visual resources along this portion of the route.

4.2.15 Beneficial Reuse

In November 1985, the Wisconsin Legislature passed Wisconsin Act 46, which encouraged the beneficial reuse of high-volume industrial waste (foundry sands and utility coal ash). In 1992, the legislature enacted Wisconsin Act requiring a "Foundry Sand Study" to further address the reuse issue. The purpose of this study was to develop environmentally acceptable ways of beneficially reusing high-volume waste. Because of this study, WisDOT roadway projects have been identified as excellent opportunities to beneficially reuse specific materials.

Wastes that have the greatest potential for reuse in roadway projects include foundry sand and cupole slag, as well as utility coal ash. Certain mine waste (roaster and flotation) may also be suitable for certain

roadway projects. The waste streams may have slightly elevated concentrations of metals, but if used according to WDNR guidelines, pose little risk of adversely impacting the environment.

4.2.16 Energy

Energy consumption related to highway projects involves construction and operational energy. Construction energy is that required to build or maintain the highway facility. Operational energy is the direct consumption of fuel by vehicles using the roadway. Fuel consumption is influenced by vehicle types, roadway grades and other geometric characteristics, traffic speed, and delays caused by congestion and intersection stop conditions.

4.2.16.1 No-Build Alternative

The No-Build Alternative would require minimal construction energy. Periodic roadway maintenance such as resurfacing and patching would occur over time until the condition of the roadways warrants complete reconstruction. This alternative would have the greatest operational energy requirements, particularly in Milton, Jefferson, Johnson Creek, and Watertown, where projected traffic volume increases and reduced level of service suggest that increased congestion and vehicle delays and inefficient operation at intersections would be important factors.

4.2.16.2 Build Alternatives

Construction energy would be greatest for the build alternatives, which would have similar construction energy requirements. These costs would be recovered over time due to long-term savings in operational energy costs.

4.2.17 Construction Impacts

The construction of all build alternatives will involve typical roadway construction activities, including maintenance of traffic, clearing, grading, construction of temporary haul roads, excavation of unusable soils and associated disposal, construction of drainage structures, base course and paving operations, utility relocations, and landscaping.

An important impact associated with road construction is the short-term interference with traffic patterns, including pedestrians and bicyclists. The Milton, Jefferson, and Watertown bypasses would be constructed on new location, so traffic could continue to use existing STH 26 through these cities until the bypasses are completed. For much of the remainder of the project, two new lanes will be constructed alongside the existing two lanes. Traffic generally could be maintained on the existing roadway until the two new lanes are completed. At some locations, temporary connections may be necessary to maintain traffic on STH 26 when switching the two new lanes from one side of the existing roadway to the other side, or where the existing lanes are to be removed and four new lanes are to be constructed.

Noise generated by construction equipment will vary greatly depending on the equipment type, mode and duration of operation, and specific type of work in progress. See Table 4.2.17-1 for typical construction equipment sound levels for various equipment types. Typical noise levels at 50 feet (15 m) from the construction zone will be in the range of 67 to 105 dBA. See Table 4.2.17-2 for typical construction equipment sound levels for various equipment types.

**TABLE 4.2.17-1
CONSTRUCTION EQUIPMENT SOUND LEVELS**

| | Sound Level (dBA) at 50 Feet | | | | | |
|---|------------------------------|----|----|----|-----|-----|
| | 60 | 70 | 80 | 90 | 100 | 110 |
| EQUIPMENT POWERED BY INTERNAL COMBUSTION ENGINES | | | | | | |
| Earth Moving | | | | | | |
| Compactors (Rollers) | | — | | | | |
| Front Loaders | | — | — | | | |
| Backhoes | | — | — | — | | |
| Tractors | | — | — | — | | |
| Scrapers, Graders | | | — | — | | |
| Pavers | | | | — | | |
| Trucks | | | — | — | | |
| Materials Handling | | | | | | |
| Concrete Mixers | | | — | — | | |
| Concrete Pumps | | | | — | | |
| Cranes (Movable) | | | — | — | | |
| Cranes (Derrick) | | | | — | | |
| Stationary | | | | | | |
| Pumps | | — | | | | |
| Generators | | — | — | | | |
| Compressors | | | — | — | | |
| Impact Equipment | | | | | | |
| Pneumatic Wrenches | | | — | — | | |
| Jack Hammers & Rock Drills | | | — | — | — | |
| Impact Pile Drivers (Peaks) | | | | | — | — |
| Other | | | | | | |
| Vibrator | | — | — | | | |
| Saws | | — | — | | | |

SOURCE: Figure 2-36, Report to the President and Congress on Noise, Prepared by the U.S. EPA, February 1972

TABLE 4.2.17-2
CONSTRUCTION NOISE/DISTANCE RELATIONSHIP

| Distance from Construction Site, Meters (feet) | Range of Typical Noise Levels (dBA) |
|---|--|
| 8(25) | 82-102 |
| 15(50) | 75-95 |
| 30(100) | 69-89 |
| 61(200) | 63-83 |
| 91(300) | 59-79 |
| 122(400) | 57-77 |
| 152(500) | 55-75 |
| 305(1,000) | 49-69 |

Source: EPA and WisDOT.

It is important to note that construction levels refer to instantaneous maximum noise as opposed to the hourly average sound levels used to describe traffic noise. The loudest construction sound levels would occur during operations such as pile driving or breaking concrete. Adverse impacts resulting from construction noise are expected to be localized, temporary and transitory.

To reduce the potential impact of construction noise, the special provisions for this project will require that motorized equipment shall be operated in compliance with all applicable local, state and federal laws and regulations relating to noise levels permissible within and adjacent to the project construction site. All motorized construction equipment will be required to have mufflers constructed in accordance with the equipment manufacturer's specifications or a system of equivalent noise reducing capacity. It will also be required that mufflers and exhaust systems be maintained in good operating condition, free from leaks and holes.

Short-term construction impacts on transportation, access to facilities and services, regional and local economies, and the natural environment (including surface waters, wetlands) are discussed above under those separate subsections.

4.3 SUMMARY OF INDIRECT AND CUMULATIVE IMPACTS

This section summarizes the potential indirect and cumulative land use, socioeconomic, and environmental impacts of proposed STH 26 improvements that could take place over a period of time. Such impacts can be both beneficial and adverse. These impacts are discussed earlier in Sections 4.1 and 4.2.

This section also discusses tools that are available to local governments to address indirect and cumulative impacts.

The Panel of Experts process described in Section 4.1 was used to identify both the potential indirect and cumulative impacts and to identify the tools available to mitigate or manage such impacts.

The study area used to evaluate indirect and cumulative impacts includes all of the three counties (Rock, Jefferson, and Dodge) that contain portions of the proposed corridor.

4.3.1 Regulatory Basis and Definitions of Indirect and Cumulative Impacts

The Council on Environmental Quality (CEQ) regulations (40 CFR 1500 - 1508) provides a regulatory framework and guidance for analyzing indirect and cumulative impacts. WisDOT's publication, *Indirect and Cumulative Effects Analysis for Project-Induced Land Development: Technical Reference Guidance Document*, provides guidance on complying with CEQ regulations. According to the technical reference document and the language in the WisDOT Facilities Development Manual (Procedure 25-5-17):

“Environmental documents are required to include reasonably foreseeable direct and indirect effects, including changes to land use. Project-induced land development means changes in the land use that are a result, in whole or in part, of decisions made about the transportation system.”

The CEQ regulations (40 CFR 1500 – 1508) implementing the procedural provisions of the National Environmental Policy Act (NEPA) distinguishes indirect and cumulative impacts from direct impacts through the following definitions (“effects and “impacts” are used synonymously in the CEQ regulations):

- a) direct effects - “are caused by the action and occur at the same time and place.”
- b) indirect effects - “are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.” (s. 1508.8)
- c) cumulative effects - “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.” (s. 1508.7)

4.3.2 Potential Land Use and Socioeconomic Indirect and Cumulative Impacts

Impacts and tools to address them are discussed below and summarized in Table 4.3.2.

4.3.2.1 Residential

Indirect impacts on residential land use refers to the potential for impacts on either the amount or rate of residential growth or the location of residential growth due to highway improvements. Cumulative impacts on residential land use refers to the potential for impacts resulting from the combination of the STH 26 improvements with other past, present or reasonably foreseeable future actions. Residential development may be stimulated by a range of factors including lessening of commuter times between

potential residential development areas and places of employment; location of interchanges and signaled intersections; or, impacts on local road access and circulation.

General Residential Development Trends

The population of each of the three counties that include portions of proposed STH 26 improvements exceeded the state growth rate of 7 percent from 1990 to 1998 (Wisconsin Department of Administration (WDOA), Demographic Services Center). At the same time, the study area is not subject to either “boom – bust” economic cycles or large changes in the rates of population growth. Population growth rates are unlikely to be measurably impacted by STH 26 improvements.

The general pattern of development along the STH 26 corridor consists of a group of incorporated mid-sized and smaller communities (Milton, Fort Atkinson, Jefferson, Johnson Creek, and Watertown) separated by rural areas of primarily agricultural land or low-density rural residential development. Janesville, which is located at the southern end of the corridor where STH 26 joins Interstate Highway 90, has a population of approximately 60,000. The incorporated communities along the STH 26 corridor in the study area range from approximately 1,600 to 21,000. Each of the incorporated communities has a strong base of local industry. All the local economies are relatively healthy and there are no significant pockets of blight or depressed areas.

The general residential commuting patterns in the study area are complex and utilize a large number of different routes. In general, the predominant commuter patterns are in an east-west direction because of residents of Rock, Jefferson and Dodge Counties commuting to employment centers in the Madison and Milwaukee metropolitan areas. The STH 26 improvements will have limited impact for the majority of east-west commuters because of the large number of east-west roads that commuters can take to travel either to the Madison or Milwaukee metropolitan areas.

Although the predominant commuter patterns are east-west, a significant amount of both commuter and business-related travel occurs between communities on the STH 26 corridor. STH 26 improvements will affect the commuting times and convenience for study area residents who commute within the corridor or utilize the STH 26 corridor for access to either IH 90 or IH 94.

Although STH 26 improvements are not likely to impact the total population within the three-county area, the highway improvements could affect location decisions within the corridor. In general, improvements to STH 26 could influence residential location decisions in the following manner:

- Portions of the study area that will have reduced commute times due to highway improvements could become more attractive residential development locations;
- Communities that have more industry and retail development that can be attributed to better highway transportation access may grow at a faster rate than communities without transportation improvements;
- Areas or districts adversely affected by highway improvements (e.g. noise factors, poor access) could become less attractive for residential development;
- Areas that receive other urban services, such as public sanitary or water supplies, could become more attractive for residential development. This impact can be seen where utilities are extended to serve

interchange or highway-related development and the surrounding residential land thus becomes serviceable by utilities.

A very important factor that will influence residential location decisions within the STH 26 study area is the fact that all of the municipalities and each of the three counties has land use plans and other types of land use regulations. These land use plans and regulations encourage growth within planned growth boundaries or urban service areas and discourage growth in rural areas outside delineated growth boundaries.

No-Build Alternative

The No-Build Alternative could potentially have several different long-range impacts on residential development. If the No Build alternative resulted in a slow decline in local economies, a gradual slowing of growth rates could occur in those communities along the corridor that do not have good access to the regional highway system. A general stagnation of the local economy could eventually reduce the rates of residential construction and employment.

Another potential result of the No-Build Alternative in each of the communities that STH 26 traverses (i.e. Milton, Jefferson, and Watertown) would be increased congestion and slower movement of traffic along existing STH 26. Slower moving traffic can reduce the severity of accidents. However, slower moving traffic also impedes mobility. Traffic congestion could result in the indirect impact of stimulating relocation and additional residential growth on the outskirts of the communities in neighborhoods where there would be less traffic.

The No-Build Alternative could also have the indirect effect of discouraging development that might otherwise occur at the interchanges of bypass highways around Milton, Jefferson, and Watertown. The lack of such bypass-related development could tend to slow the rate of utility extensions and affect the direction of residential growth.

Build Alternatives

Indirect and Impacts Due to the Location of Bypasses

The locations of bypasses around Milton, Jefferson, and Watertown will likely have an impact on the general direction of growth in each of these communities. Bypasses tend to form “beltways” around communities where infill occurs within the “beltway” and the area outside the “beltway” tends to remain rural. The reason for this is that the bypass corridors form, at least temporarily, barriers to the extension of utilities.

In general, the bypass routes that are closer to the developed portions of the communities will tend to encourage more compact development patterns with development closer to the incorporated communities. Conversely, bypass routes that are farther removed from the existing growth areas may tend to stimulate residential development farther from existing development centers.

Cumulative Impacts of STH 26 Improvements

The main cumulative impacts on residential land use could include increased residential development due to the improved economy that results from STH 26 improvements and industrial park expansion; increased residential development on the north side of Janesville and the south side of Milton where 1999

STH 26 improvements will combine with upcoming improvements to make the area more attractive for residents; and, increased residential growth and development in the Johnson Creek area where near-term STH 26 improvements will combine with upcoming improvements to make the area attractive for residents.

Indirect Impacts Due to Reduced Commuter Times

The bypass alternatives reduce commuter times between communities within the corridor. The bypass alternatives also reduce commuter times between communities and IH 90 and IH 94. This could have the incremental affect of making certain areas more attractive for development. This potential regional impact is lessened, in part, because other highways in southern Wisconsin are also receiving transportation facility improvements that will maintain or reduce commuter travel times. It is unlikely that the relative improvements in commuter times within the STH 26 corridor will be significant enough to alter the relative attractiveness of the area compared to other communities near the Madison and Milwaukee metropolitan areas.

Role of Local Land Use Plans and Zoning in Managing Potential Indirect Impacts

Each of the communities for which bypasses are being considered has recently adopted a land use plan and local zoning and land use controls. The implementation of these locally adopted land use plans and regulations will have a much more significant impact on long-term residential development patterns than the proposed highway improvements. The Department is proposing to work with local governments along STH 26 from Janesville to STH 60 to prepare a comprehensive corridor plan for access management, future land use, and future road networks on and adjacent to STH 26.

4.3.2.2 Industrial

Indirect impacts on industrial land use refer to the long-range impacts of proposed highway improvements on the quantity, quality, or location of industry. Cumulative impacts on industrial land use refers to the potential for impacts resulting from STH 26 improvements combined with other past, present, and reasonably foreseeable future actions. In this section, the term industry refers to both traditional industries, such as manufacturing, assembly, and distribution, and “new technology” information-based industries, such as office centers, telecommunications companies, and research and development businesses.

All of the build alternatives could have indirect impacts on industrial development by improving access to communities along the corridor. This is especially important for those communities not located on the Interstate Highway system, which includes Milton, Fort Atkinson, Jefferson, and Watertown. These communities are likely to experience incremental industrial impacts because travel times between the communities and to the Interstate Highway system would be reduced.

No-Build Alternative

Truck traffic would continue to travel through the developed portions of Milton, Jefferson and Watertown with the No Build Alternative. Currently, traffic congestion caused by truck routes going through the downtown areas and other developed districts within the corridor is an impediment to many of the industries in the study area. Congestion and long travel times lead to the indirect impact of increasing costs for the delivery of both raw materials and finished goods and products. There would also be greater congestion and longer travel times for employees. The ability to attract employees has become an

increasingly important factor regarding where a business should locate. Thus, the greater congestion and longer travel times that would be the result of the No Build Alternative would have the long-term tendency of making those communities not on the Interstate Highway system less attractive for many types of industries that rely on either truck transportation and/or attracting employees from other areas.

Build Alternatives

The bypass alternatives for Milton, Jefferson, and Watertown would all have the long-term impact of removing some of the truck traffic through the central portions of the communities and reducing travel times.

The degree of impacts for each of the bypass alternatives is closely related to the amount by which travel times are reduced and access is improved to both existing and planned industrial sites. In general, proposed bypass locations which have direct access to industrial parks and other industrial districts will be most beneficial to local industries.

In Milton, Alternatives S2 and S3 would both provide similar access to existing and planned industrial parks that would be beneficial in the long-term. In Jefferson, industry is distributed in numerous areas throughout the community. The City is making major investments in a planned industrial park on the northeast side. Access to the planned industrial area would be improved equally by all of the build alternatives that have a north side interchange near the northeast industrial district. In Watertown, industries are also distributed throughout the City; however, all of the planned industrial park expansion areas are located on the west and southwest sides of the City. Alternative N1 would have the most substantial long-range benefit to local industries since it is located on the west side of the City.

All of these alternatives would lead to the effect of keeping costs lower for the delivery of finished goods and products. This would help to improve the profit margin of existing industries and attract new industrial facilities. There would be new jobs and expansion of the community tax base, helping attract new employees to the area.

Cumulative impacts on industrial land use could include the expansion of industrial parks resulting from the combination of STH 26 project improvements with recently completed STH 26 widening on a portion of the corridor immediately south of Milton; and, the near-term Johnson Creek interchange improvements.

4.3.2.3 Commercial

Indirect impacts on commercial land use refers to the long-range impacts of proposed highway improvements on the quantity, quality or location of retail stores and services in the STH 26 study area. Cumulative impacts on commercial land use refers to the potential for impacts resulting from STH 26 improvements when combined with other past, present and reasonably foreseeable actions. Commercial land uses include both downtown or central business district (CBD) businesses, neighborhood convenience businesses, and highway-oriented or strip center businesses located along the major arterials approaching the communities.

No Build Alternative

The No-Build Alternative would retain existing travel patterns. For businesses such as service stations, motels, and fast-food establishments that rely on high volumes of through-traffic, the maintenance of

heavy traffic along existing corridors could be perceived as beneficial. For other types of business that rely primarily on local business or are destination businesses, increasing congestion on the existing corridor and longer travel times is likely to be perceived as negative.

In general, most businesses in the downtowns or CBDs would be adversely impacted by the no build alternatives, which retain current travel patterns and would result in increased levels of through-traffic, particularly truck traffic, in the central parts of the communities. Road congestion is a particular problem for businesses in downtown Jefferson. It deters potential customers and increases the cost of delivering goods and services. This leads to the indirect impact of CBD businesses relocating to other parts of the community or to other communities.

Some highway-oriented businesses on the arterial “business strips” on the south side of Jefferson and the south side of Watertown may perceive some benefits from existing travel patterns which routes all north-south through traffic along the existing corridor. Increased traffic volume may translate to more customers for these businesses. This could attract more similar type businesses to the area. Other businesses along the arterial strips, such as retail stores and services whose customers are primarily local residents could experience a reduction in customers due to increasing congestion. This could lead to the relocation of these businesses to other communities.

Build Alternatives

Central Business District Impacts

The build alternatives that include bypasses are likely to have the long-term effect of improving central business districts (CBDs). The CBD in Jefferson, in particular could become more “pedestrian-friendly” and attractive to shoppers. Even in Watertown, where the heart of the CBD is located several blocks east of Main Street, the reduction of through-traffic on Church Street could make downtown Watertown more accessible. This could attract businesses that offer high quality goods and services, bringing more customers to the area. The shopping centers and retail businesses on South Church Street in Watertown could experience similar beneficial impacts.

Impacts Related to Locating Highway-Oriented Businesses on Bypass Corridors

A potential indirect impact to certain types of businesses could include a gradual shift in the commercial mix in bypassed communities. Highway-oriented commercial development might decrease in central cities as new highway-oriented development occurs at interchanges and at-grade intersections. This type of development pattern can be seen in Fort Atkinson where two new motels are being constructed at the interchange of USH 12 and Bypass Highway 26.

Near-term Johnson Creek interchange improvements combined with future STH 26 project improvements could result in the cumulative impact of further expansion of highway-oriented commercial development at the Johnson Creek interchange. This development could harm the viability of highway-oriented commercial development located in and near the Johnson Creek central business district.

Commercial Development in Rural Areas Between Communities

The proposed improvements to the STH 26 corridor between the incorporated communities are unlikely to have measurable indirect commercial development impacts. There are no rural commercial development districts along the corridor. If local land use controls that discourage rural commercial

development remain effective, new rural commercial development is unlikely to occur between the incorporated cities along STH 26.

Route-Specific Indirect Impacts on Commercial Development

There are two central mixed use districts in Milton that include commercial and office development. One is located at Parkview Drive and Old College and the other is along Merchant Row. The Parkview and Old College commercial area is within view of existing STH 26. There are two other growing commercial areas in the City, one along STH 26 south of High Street and another one on John Paul Road, just north of High Street. Both Alternatives S2 and S3 route through traffic further from all of these commercial areas which could lead to the indirect impact of decreasing customers for existing businesses and deterring new businesses from locating in these areas. However, removing through traffic from STH 26 could enhance the character of historic buildings and community facilities along this route. This could lead to the indirect effect of attracting visitors and shoppers to the central mixed-use district by STH 26 and the growing commercial area along STH 26.

In Jefferson, Alternatives C2 and C3 would have roughly equivalent indirect commercial development impacts. The more distant bypass routes (Alternatives C1 and C4) would have slightly greater adverse impacts on existing commercial development by shifting the interchanges farther from the community and reducing access to the community. Alternative C4, in particular, would bypass the Jefferson area farther out on the north and east side.

In Watertown, Alternatives N1 and N2 would both bypass many existing businesses on the south side of the City. Generally, this is a positive impact, since most of the businesses are destination businesses or rely primarily on local traffic for their customer base. Even those businesses that rely on through-traffic, such as motels and service stations, would have relatively good access to the south interchange.

4.3.2.4 Institutional

Institutional indirect impacts refer to the long-range impacts of proposed highway improvements to either existing or planned institutional uses.

Within the STH 26 corridor study area, institutional uses include schools, churches and government facilities. Most of these local institutions are located within the incorporated communities. Several major institutions with campuses outside of communities could also be affected by highway improvements. These institutions include St. Coletta School (east of Jefferson) and the Jefferson County Farm Property (southwest of Jefferson).

No-Build Alternative

The No-Build Alternative would generally have an adverse effect on many of the local institutions, such as elementary schools and churches that are within the incorporated communities of Milton, Jefferson, and Watertown. Through-traffic would continue to be routed through the central portion of these communities, thereby making cross-town travel less convenient and impeding motor vehicle, pedestrian and bicycle circulation between residential neighborhoods and schools, churches and other institutions.

Build Alternatives

The bypass alternatives around Jefferson could have several different long-range impacts. St. Coletta School, which is located east of the City of Jefferson, could be substantially impacted by Alternative C3. Alternative C3 would utilize some of the institution's land, which is now in agricultural use, and would place a major highway between the school campus and the City of Jefferson.

This major highway would create safety hazards for the residents at the school that walk between the campus and destinations in the City of Jefferson. Although it is unlikely that Alternative C3 would cause the institution to either close or change its focus, this bypass route could affect the institution's use of land and future expansion. St. Coletta has submitted a letter, dated April 24, 2000, opposing Alternative C3 (see Appendix A).

A second institutional site that could experience long-range indirect impacts from the Jefferson bypass alternatives is the Jefferson County Farm Property located on the southwest side of the City. Several Jefferson County facilities, including the Countryside Home, Jefferson County Department Health and Services, and the UW Extension Service are located in County-owned buildings on the site. A large mixed-use Planned Unit Development (PUD) has been proposed for the 645-acre site. A letter from John Weiss, Chair, Jefferson County Planning and Zoning Committee, dated February 3, 2000 (see Appendix A) indicates that the two bypass alternatives (Alternative C1 and C2) which bisect the County's land would be "a major departure from the recently completed *Countryside Farm Master Plan*." Alternatives C1, C2, C2(a), and C2(b) would make the County Farm Property adjacent to the relocated highway less attractive for residential development. Alternatives C2(a) and C2(b) pass through the County Farm Property towards its center. Alternatives C1 and C2 pass through the south side of the Property.

All of the westerly bypasses could lead to the indirect effect of making the Jefferson County Farm Property a more attractive location for siting county facilities.

4.3.2.5 Agricultural

Indirect impacts on agricultural land use could include:

1. Impacts associated with new non-farm development that is attracted to the area by transportation improvements.
2. Impacts to farming caused by gradual changes in the farm economy due to either farm separations or the incremental loss of farms in areas that can cause the loss of agricultural infrastructure, such as farm services and suppliers, grain storage, or farm produce processors.
3. Impacts associated with improved farm to market connections and with farm to processor connections.

Cumulative impacts on agricultural land use refers to the potential for impacts resulting from the combination of STH 26 improvements with other past, present, or reasonably foreseeable future actions. STH 26 improvements combined with industrial park expansion in Milton, Jefferson and Watertown would provide a boost to the economy leading to increased residential growth. This growth would require conversion of agricultural land for residential development and increased stormwater drainage to agricultural land.

No-Build Alternative

The No-Build Alternative would tend to have the least impact on agricultural land, since no land would be directly converted to highway use and no new farmland separations or land divisions that would affect farming operations would occur. There could be an adverse impact on farm to market connections along the corridor where traffic congestion will continue to increase. Although farmland could be converted to non-farm uses due to a variety of factors, the No-Build Alternative is not likely to be a strong contributing factor.

Build Alternatives

The Build Alternatives could have indirect agricultural impacts.

Creation of “Beltways”

In general, the bypass alternatives that are closer to the current limits of development tend to have less agricultural impact than alternatives that are further from existing development. There is a tendency for municipalities to “in-fill” land within the bypass “beltways.” This has occurred in Fort Atkinson east of the STH 26 bypass and could occur where bypasses are proposed for Milton, Jefferson and Watertown. However, most of the bypass alternatives being considered are currently near the edges of urban growth, unlike the Fort Atkinson bypass at the time it was built.

Role of Local Planning and Zoning

In the case of each of the municipalities for which bypasses are proposed, the local governments have recently adopted Comprehensive Master Plans that call for the phased expansion of development areas and the conversion of farmland to non-farm uses within 20-year urban service areas. Each of the counties and the majority of towns and incorporated municipalities within the STH 26 study area have adopted land use plans and land use regulations that encourage farmland preservation and discourage the conversion of farmland to non-farm uses outside of planned growth boundaries. Land use and zoning regulations that implement the long-range urban service area concept may lessen the indirect impacts on agriculture.

Rural Impacts Between Communities

In the segments of highway between the proposed bypasses, there would be few indirect or cumulative agricultural impacts that could be attributed to highway improvements. Nearly all of the planned improvements between communities are proposed along the existing highway corridor and would incur the direct impact of right-of-way acquisition for highway widening. There would be few indirect impacts on either individual farms or the farm economy.

4.3.2.6 Park and Recreation Areas

None of the alternative routes under consideration would directly impact any public parks or privately owned recreational areas. The indirect and cumulative impacts to municipal parks and recreation lands in the area would be impacts associated with general growth and development of the area and access within the communities.

Several regionally important parks and recreational areas outside the STH 26 corridor could experience long-term indirect impacts. Aztalan State Park, which is a State-managed park and archaeological site of national significance, is located between the City of Lake Mills and the Village of Johnson Creek, approximately three miles west of the STH 26 corridor. None of the routes under consideration would directly impact either the park or adjoining archaeological sites. However, the improved access to the area could result in an increase in visitation to the park.

Similar impacts could be experienced by the Glacial Drumlin State Recreation Trail, which crosses the STH 26 corridor between the City of Jefferson and the Village of Johnson Creek. Improved access could have the long-range impact of increasing use of this regional recreational facility.

Alternative S3 travels in close proximity to the Storr's Lake Wildlife Area, which is located northeast of the City of Milton. Both Alternatives S2 and S3 would improve access to the area, which could result in increased visitation.

4.3.2.7 Environmental and Related Resources

Indirect impacts to environmental and related resources may also occur in areas where development is induced by the proposed action. Indirect impacts to such resources could occur in areas near access locations along the proposed facility. Wetlands, lakes, streams, designated natural areas, threatened or endangered species habitat, and other wildlife habitat could be impacted by direct land conversion for development, as well as by increased noise and rapid storm water drainage from developed areas, particularly near interchange locations.

Indirect hydrologic impacts to wetlands are discussed in Section 4.2.2. As discussed in Section 4.2.3, county floodplain ordinances do not allow development that is not compatible with floodplain areas.

4.3.3 Tools to Address Indirect and Cumulative Impacts

A wide range of tools is available to local governments and other agencies to mitigate and manage potential indirect and cumulative land use and socioeconomic impacts associated with highway improvements. These tools include:

Regulatory Tools

- Comprehensive Planning
- Zoning
- Extraterritorial Zoning
- Land Division Regulation
- Official Mapping
- Driveway Controls

Nonregulatory Tools

- Cooperative Boundary Agreements and Other Types of Intergovernmental Agreements
- Land Acquisition
- Purchase or Transfer of Development Rights
- Conservation Easements
- Information and Education

TABLE 4.3.2
SUMMARY OF POTENTIAL INDIRECT AND CUMULATIVE IMPACTS
FOR COMMUNITIES IN THE STH 26 STUDY AREA

| Alternative | | Tools to Address Impacts |
|--|--|---|
| No Build | Build | |
| Residential Impacts | | |
| <p>Slow decline in local economies resulting in: less employment, gradual slowing of growth rates and reduced rates of residential construction.</p> <p>Pressure for residential development on outskirts of communities where there would be less traffic congestion.</p> <p>Lack of bypass development on the outskirts of Milton, Jefferson and Watertown could slow the rate of utility extensions and affect the direction of residential growth.</p> | <p>More compact development patterns closer to Milton, Jefferson and Watertown where bypass routes are closer to the developed portions of these communities.</p> <p>Increase in residential development farther from existing residential development centers where bypass routes are farther removed from existing growth areas.</p> <p>Reduced commuter times due to bypass alternatives could make certain areas more attractive for development.</p> <p>Future increases in residential development due to an improved economy that is the result of planned industrial expansion combined with STH 26 improvements.</p> <p>Increase in residential development on the north side of Janesville and the south side of Milton where STH 26 widening in 1999 will be combined with current bypass plans for STH 26 to make the area more accessible and therefore attractive for new residents.</p> <p>Increase in residential growth and development in the Johnson Creek area where near-term STH 26 improvements will combine with upcoming improvements to make the area more accessible and therefore more attractive for residents.</p> | <p>Comprehensive Planning and Zoning Regulations - Each of the communities where bypasses are being considered has recently adopted a land use plan and local zoning and land use controls. Some rural towns and incorporated communities have coordinated regarding both the location of the highway improvements and mitigation tools. The implementation of these locally adopted land use plans and regulations will have a much more significant impact on long-term residential development patterns than the proposed highway improvements.</p> <p>Extraterritorial zoning – Extraterritorial zoning regulates land use within either one-and-one half miles (villages or 4th class cities) or three miles (1st, 2nd or 3rd class cities) of municipal limits. Several communities along the STH 26 corridor are exploring the use of extraterritorial zoning to help control growth and development at the edges of municipalities.</p> <p>Official Mapping - Several communities in the STH 26 study area are preserving corridors for future infrastructure and drainage improvements using official mapping. Official mapping should be considered as a way to better plan for residential development induced by highway improvements.</p> <p>Comprehensive Planning and Zoning Regulations – Each of the bypass communities addresses industrial park expansion in their adopted comprehensive plans. These communities are working with WisDOT to carefully coordinate bypass alternative plans with their comprehensive plans and zoning regulations. These communities should also plan for possible residential growth that could occur as a result of new industrial jobs.</p> <p>Smart Growth Legislation - Wisconsin’s recently adopted Comprehensive Planning and “Smart Growth” Law requires that all municipalities adopt comprehensive plans by 2010 that contain the following elements: issues and opportunities; housing; transportation; utilities and community facilities; agricultural, natural and cultural resources; economic development; intergovernmental cooperation; land use; and, implementation.</p> <p>Corridor planning – WisDOT will work with communities in the STH 26 area to improve access management and land use planning.</p> <p>Agricultural preservation policies – most of the STH 26 area is protected by some form of agricultural preservation policy (see Agricultural Impacts section of this table) which can be used to lessen the pressure for residential growth in rural areas.</p> |

TABLE 4.3.2
SUMMARY OF POTENTIAL INDIRECT AND CUMULATIVE IMPACTS
FOR COMMUNITIES IN THE STH 26 STUDY AREA

| Alternative | | Tools to Address Impacts |
|---|---|---|
| No Build | Build | |
| Industrial Impacts | | |
| Those communities that are not on the Interstate Highway system could find it more difficult to attract industry that relies on either truck transportation, and/or attract ing employees from other areas. | Long-term tendency of making those communities that are not on the Interstate Highway system more attractive for new industry due to improved access. | Zoning Regulations - Rural communities along the STH 26 corridor have zoning regulations and in many cases land use plans that should be used to carefully plan for new industrial development, and associated residential growth. |
| Increased costs for the delivery of both raw materials and finished goods and products for existing industries along the corridor due to long travel times and increased congestion. | Decreased costs for the delivery of raw materials and finished goods for existing industries along the corridor due to shorter travel times and reduced congestion. | |
| | Job creation and expansion of the tax base in rural and urban communities of the study area that attract new industry due to the highway improvements. New jobs and expansion of the tax base could attract additional residential development. | |
| | Expansion of industrial parks resulting from the combination of STH 26 project improvements with recently completed STH 26 widening on a portion of the corridor immediately south of Milton and near-term Johnson Creek interchange improvements. | |
| Commercial Impacts | | |
| Increased cost of delivering goods and services to CBD businesses due to increasing traffic congestion. | Bypass alternatives are likely to have the long-term impact of making CBDs in Jefferson and Watertown more “pedestrian friendly” and attractive to shoppers through the removal of through traffic. This could help retain existing businesses and attract new businesses to the CBDs. | Intergovernmental agreements – Intergovernmental agreements can be used to promote cooperation among adjacent town, cities and villages as they attempt to control and manage commercial development especially at highway interchanges. The City of Watertown and the Town of Emmet entered into an intermunicipal cooperation agreement on March 10, 2000. A major provision is that the City waives its extraterritorial and land division review within Town Growth Area boundaries and the Town must make its land use decisions in conformance with the City policies within City Growth Area boundaries. |
| Relocation of some CBD businesses to other parts of the community or outside the community. | Decrease in highway-oriented commercial development along the existing corridor and in central city commercial districts (such development is minimal and primarily includes gas stations and restaurants) to the extent that new highway-oriented development occurs at bypass interchanges and at-grade interchanges. | |
| Some highway-oriented businesses on the arterial “business strips” on the south side of Jefferson and the south side of Watertown may experience an increase in customers from the retention of existing travel patterns. | Relocation of some CBD businesses to other parts of the community or outside the community. | |
| New highway-oriented businesses could be attracted to the south side of Jefferson and the south side of Watertown due to heavy volumes of traffic. | | Access controls –Major state trunk highways in the STH 26 study area either have or are planned to be access controlled. County trunk highways and local roads have driveway permitting. It is the intent of WisDOT to purchase access control on side roads near interchanges and intersections where the Department does not already have access control. |
| Locally oriented businesses along arterial strips could experience a reduction in customers | | |

TABLE 4.3.2
SUMMARY OF POTENTIAL INDIRECT AND CUMULATIVE IMPACTS
FOR COMMUNITIES IN THE STH 26 STUDY AREA

| Alternative | | Tools to Address Impacts |
|---|--|---|
| No Build | Build | |
| due to increasing congestion. | | |
| Institutional Impacts | | |
| Inconvenient access to institutions could shift residential growth to the outskirts of Milton, Jefferson and Watertown. | <p>The major highway crossing along Alternative C3 between the St. Coletta school campus and the City of Jefferson would create a safety impact for residents walking to and from the City. This could affect the institution's use of land and future expansion.</p> <p>Alternatives C1 , C2, C2(a), and C2(b) would make the County Farm Property adjacent to the relocated highway less attractive for residential development.</p> <p>Improved access to the Jefferson County Farm Property would improve the attractiveness of the site as a regional location for county facilities.</p> | Zoning regulations – Zoning regulations should be used to control the proximity of new development to highway improvements. |
| Agricultural Impacts | | |
| Through-traffic will continue to increase in Milton, Jefferson and Watertown slowing farm to market connections. | <p>STH 26 bypass alternatives located closer to the current limits of development in Milton, Jefferson and Watertown are likely to create less agricultural impact than those located further out since communities generally tend to in-fill land within bypasses (i.e. Fort Atkinson east of the STH 26 bypass).</p> <p>STH 26 improvements combined with industrial park expansion in Milton, Jefferson and Watertown would provide a boost to the economy leading to increased residential growth. This growth would require conversion of agricultural land for residential development and increased stormwater drainage to agricultural land.</p> | <p>Comprehensive Planning –</p> <p>Most of the towns, cities and villages in the STH study area have comprehensive plans that strive to preserve agricultural land and maintain their rural character.</p> <p>Exclusive Agricultural Zoning and Designation of Agricultural Preservation Areas –</p> <p>The draft Town of Milton Land Use Plan designates exclusive agricultural land use and zoning areas. Those areas that would be most impacted by the STH 26 project include land along the existing STH 26 corridor north of the City of Milton and extending to the Town of Koshkonong.</p> <p>In Jefferson County, STH 26 and its proposed alignments travel through the Town of Koshkonong, Town of Jefferson, Town of Aztalan, Town of Farmington, and the Town of Watertown. The Jefferson County Agricultural Preservation and Land Use Plan designates agricultural preservation areas along STH 26 in all of these towns. In Dodge County, STH 26 and its proposed alignments travel near the Town of Shields and through the Town of Emmet and the Town of Clyman. The Town of Shields utilizes exclusive agricultural zoning.</p> |
| Impacts to Park and Recreation Areas | | |
| No apparent indirect impacts. | <p>Aztalan State Park, located between the City of Lake Mills and the Village of Johnson Creek, approximately three miles west of the STH 26 corridor could experience an increase in visitation due to improved access.</p> <p>The Glacial Drumlin Trail could experience an increase in usage due to improved access.</p> <p>Both Alternatives S2 and S3 provide better access to the Storr's Lake Wildlife Area, which could lead to an increase in visitation.</p> | |

4.3.3.1 Comprehensive Planning

Communities in Wisconsin are empowered to adopt comprehensive or master plans. The various Wisconsin Statutes that enable local comprehensive planning include Chapter 59 (Counties), Chapter 60 (Towns), Chapter 61 (Villages) and Chapter 62 (Cities) of the Wisconsin Statutes. Wisconsin's recently adopted Comprehensive Planning and "Smart Growth Law" requires that by January 1, 2010, all local government's that intend to take local land use related actions regarding any ordinance, plan or regulation must adopt a comprehensive plan. This comprehensive plan must meet certain specific elements outlined in the new legislation. Those local governments that do not want to engage in activities affecting land use do not have to create a comprehensive plan. Funds are being made available to provide assistance to local governments to meet the new comprehensive planning requirements.

In the STH 26 corridor study area, most of the local units of government have recently adopted master plans or comprehensive plans. All of the incorporated municipalities along the STH 26 corridor adopted master plans within the past several years. Most of the plans were professionally prepared and provide excellent guidance on community growth.

Jefferson County and Dodge County have countywide land use plans adopted within the past two years. Rock County has been providing assistance to each town in the county to develop land use plans.

Nearly all of the adopted master or comprehensive plans in the STH 26 study area include the delineation of the long-range urban service areas that identify areas where urbanization is expected to occur. Most of the local plans have anticipated improvements and/or bypasses for STH 26 in their long-range planning.

4.3.3.2 Zoning

Municipalities in Wisconsin are enabled to regulate land uses at the local level through zoning. Through Section 62.23 of the Wisconsin Statutes, cities and villages are enabled to adopt local zoning. Towns may either participate in county zoning or adopt a local town zoning ordinance.

Either municipal or county zoning regulates most of the land area within the STH 26 study area.

In Rock County, the City of Milton and the Town of Milton have local zoning ordinances. Both municipalities cooperate closely with Rock County officials.

In Jefferson County, all of the incorporated municipalities have adopted zoning ordinances and all of the towns are regulated by the Jefferson County Zoning Ordinance.

In Dodge County, the Village of Clyman, Hustisford, and Reeseville have local zoning. Several of the townships do not have local zoning.

4.3.3.3 Extraterritorial Zoning

Through Section 62.23 (7a) of the Wisconsin Statutes, cities, villages, and towns are enabled to adopt extraterritorial zoning ordinances regulating land uses within either one-and-one-half miles (villages or 4th class cities) or three miles (1st, 2nd or 3rd class cities) of municipal limits. Implementation of extraterritorial zoning requires cooperation between the incorporated municipality and surrounding town(s). Several of the communities along the STH 26 corridor are currently exploring the use of extraterritorial zoning to help control growth and development at the edges of municipalities.

4.3.3.4 Land Division Regulations

Wisconsin Statutes Chapter 236 enables cities, villages, towns, and counties to adopt land division regulations to control the creation of lots through Certified Survey Maps (CSMs) or Subdivision Plats. Cities and villages may unilaterally implement land division controls within their extraterritorial jurisdictions that extend outside the municipal boundaries.

Each of the three counties and all of the incorporated municipalities in the STH 26 study area regulate lot creation. Many of the towns have also adopted town land division regulations.

The most restrictive regulations apply where a particular piece of land is regulated by overlapping land division regulations of the county, incorporated municipality or town.

4.3.3.5 Access Controls

Access controls – Major state trunk highways in the STH 26 study area either have or are planned to be access controlled. County trunk highways and local roads have driveway permitting. It is the intent of WisDOT to purchase access control on side roads near interchanges and intersections where the Department does not already have access control.

4.3.3.6 Official Mapping

Cities and villages are enabled by Section 62.23(6) of the Wisconsin Statutes to adopt “official maps” to reserve land for roads, drainageways, parks or other public purposes. The “official mapping” tool is used by several of the communities in the STH 26 study area to preserve corridors for future infrastructure and drainage improvements.

4.3.3.7 Intergovernmental Agreements

Several different types of intergovernmental agreements are used by communities in Wisconsin to control and manage growth. Communities are enabled through Section 62.023, of the Wisconsin Statutes to adopt cooperative plans and agreements; Section 66.021, Wisconsin Statutes allows local units of government to adopt annexation agreements; Section 66.027 of the Wisconsin Statutes addresses setting municipal boundaries by judgments; and Section 66.030 enables general agreements between municipalities.

A number of communities in the STH 26 study area have explored the use of each of these types of agreements in various combinations to address annexations and other development issues. The City of Watertown and the Town of Emmet entered into an intermunicipal cooperation agreement on March 10, 2000. A primary stated purpose of the agreement is to promote orderly growth within both jurisdictions while minimizing uncertainty and conflict. A major provision of the Agreement is that the City waives its extraterritorial and land division review within Town Growth Area boundaries and the Town must make its land use decisions in conformance with the City policies within City Growth Area boundaries. Increasingly, intergovernmental agreements are being used to address intergovernmental development disputes.

4.3.3.8 Land Acquisition

Governments and nongovernmental organizations can direct and control highway-induced impacts by acquisition of land for the protection of open space. This has become an increasingly important tool in preserving open spaces and “green belts” around communities. In the STH 26 study area, several land trusts have been established for the purpose of acquiring and protecting open spaces.

4.3.3.9 Purchase of Development Rights

The Purchase or Transfer of Development Rights (PDR or TDR) is another valuable tool for managing growth and development. Both Dodge and Jefferson County have considered the feasibility of using PDR and TDR in their comprehensive planning process. Private land trusts are also using PDR as a means of protecting critical natural areas and open spaces.

4.3.3.10 Conservation Easements

Another tool very closely related to PDR is the acquisition of conservation easements by either local governments or nongovernmental organizations to preserve open space while at the same time keeping land in private ownership. WisDOT and other transportation agencies around the country have successfully used this tool to protect critical scenic areas and vistas or other unique resources along roadways.

4.3.3.11 Information and Education

The use of more general information and education programming plays an important role in informing the public about land use planning and development issues. In the STH 26 study area, each of the counties and the University of Wisconsin Extension Service provide excellent public information programs and published literature on land use issues.

4.3.3.12 Wisconsin Department of Transportation Role

The Wisconsin Department of Transportation is interested in continuing to work with local communities on access issues and to encourage local land use planning and growth management. WisDOT is proposing to work with local governments along STH 26 from Janesville to STH 60 to prepare a comprehensive corridor plan for access management, future land use, and future road networks on and adjacent to STH 26.

4.4 RELATION OF LOCAL SHORT-TERM USES OF THE HUMAN ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The short-term impacts of the proposed action and the use of the resources for it are deemed consistent with the maintenance and enhancement of long-term productivity for the local area and the State of Wisconsin.

Short-term losses to the environment will occur during construction. These losses will include adverse noise, air quality and water quality impacts as well as the loss of resources, fuel and materials used in construction. In addition, impacts to vegetation and wildlife will be most severe during the short-term construction process. Other short-term effects to the environment include temporary disruption of traffic patterns and utility services and the loss of tax revenue.

The proposed project will result in long-term gains in several areas. The facility will reduce traffic congestion on the existing facility and will increase overall traffic safety in the project area by removing regional traffic, including heavy truck traffic, from historic and downtown areas in Jefferson and Watertown. The improved quality of the local, regional, and state transportation system will result in improved accessibility to many areas, resulting in better fire, police and ambulance service, as well as reducing travel time, fuel consumption, and diversion of regional traffic to county and local roads. Economic development opportunities will be increased.

Gains accomplished through the project will be accompanied by potential long-term losses. Relocations of persons and businesses will cause some long-term impacts on an individual basis. The character of the land near the project will be changes by its construction, and in some areas, will result in a long-term environmental loss. Homes, businesses, farmland and woodland to be acquired for the project will thus be lost to their existing uses or to any other potential future uses.

4.5 IRREVERSIBLE OR IRRETRIEVABLE COMMITMENTS OF RESOURCES

Construction of the proposed highway involves commitment of a range of natural, physical, human, and fiscal resources. Land acquired for construction of the proposed facility is considered an irreversible commitment during the time that the land is used for highway purposes.

Considerable amount of fossil fuels, labor, and highway construction materials, such as cement, aggregate, and asphaltic material, will be required. Additionally considerable labor and natural resources will be used in the preparation of the construction materials. These resources are not retrievable. However, these materials are not in short supply, and their use will not have significant adverse effect on their continued availability. Construction of the alternatives would involve diversion of non-retrievable funds from other areas.

The commitment of these resources is based on the concept that residents in the immediate area, State, and region will benefit by the improved quality of the transportation system. These benefits will consist of improved accessibility and safety, savings in time, and greater availability of quality services, which are anticipated to outweigh the commitment of these resources.

4.6 MEASURES TO MINIMIZE ADVERSE IMPACTS

Section 101(b) of the National Environmental Policy Act (NEPA) requires that federal agencies incorporate into their project planning all practicable measures to mitigate adverse environmental impacts resulting from a proposed action.

The following section summarizes concept-level mitigation measures that have been identified as appropriate to minimize adverse environmental impacts for the alternatives under consideration. Agency coordination and contacts with individual property owners will continue throughout the engineering design phase of the project. During that time, mitigation measures will be developed in more detail. Final mitigation will be incorporated into the final engineering plans and specifications for this project.

4.6.1 Traffic

A traffic management plan will be developed and implemented to ensure reasonable access to residences, businesses, farm parcels, community services, and local roads during construction. Work will be staged

to minimize disruption during the construction period. Lengthy detours to other routes will be minimized. To minimize delays to emergency vehicles, WisDOT will coordinate construction activities, sequencing, and traffic management plans with local fire, police, and emergency rescue services.

4.6.2 Farmlands

Mitigation for impacts to farmlands, especially access, will be determined on a case-by-case basis during the final design of the project. WisDOT will work closely with all affected property owners and make every effort to provide acceptable access to the remainder of the property. WisDOT may also make offers to purchase property remainders determined uneconomic to the owner. Access to local road networks will be restored to farm operations. Full consideration will be given to any recommendations in the Agricultural Impact Statement (AIS) regarding farmland mitigation.

4.6.3 Acquisition/Relocation

The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended provides for payment of just compensation for property acquired for a federal aid project. In addition to acquisition price, costs for the replacement dwelling, moving expenses, increased rental or mortgage payments, closing costs, and other valid relocation costs are covered. No person will be displaced unless a comparable or better replacement dwelling is provided. All of the above resources are available to all displaced persons without discrimination.

Before initiation of any property acquisition activities, property owners will be contacted to explain the details of the acquisition process and Wisconsin's Eminent Domain Law under Section 32.05, Wisconsin Statutes. Any property acquired will be inspected by one or more professional appraisers. The property owner will be invited to accompany the appraiser during inspection of the property to ensure that its value is recognized in an appraisal. Based on the appraisal(s) made, the value of the property will be determined and that amount offered to the owner. The property owner may obtain an independent appraisal. In the event agreement on the fair market value cannot be reached, the property owner will be advised promptly of the procedure to follow in making an appeal.

In addition to fair market value, costs for the business location, moving expenses, increased rental or mortgage payments and closing costs, the relocation program covers other valid relocation costs. No person will be displaced unless a comparable business location, or other compensation where a suitable replacement business location is not practicable, is provided.

The WisDOT Real Estate Section estimates the typical residence relocation process requires between 6 and 12 months, and businesses and farms need an additional six months. If difficulties are encountered in finding acceptable relocation opportunities, WisDOT will extend the right of way acquisition period until relocation can be accomplished. A detailed discussion of relocation impacts and costs, available relocation housing, and relocation assistance information and advisory services is provided in the Conceptual Stage Relocation Plan, which is attached as Appendix E.

A need for special relocation advisory services is not anticipated because at this time there is no indication that any unusual problems exist on this project. A need for remedies for insufficient relocation housing is not anticipated because at this time there is no indication that there would not be sufficient housing available for the relocations for this project.

4.6.4 Surface Water Resources

The use of bridges rather than culverts allows streams to maintain a natural bottom, permits aquatic vegetation to grow, and provides a more varied gradient to facilitate movement of fish upstream. Bridge structures will be used at non-intermittent stream crossings where it is determined in consultation with the WDNR that use of a culvert would adversely impact sensitive aquatic habitat.

Construction in or near waterways and wetlands will be done in accordance with the Standard Specifications or Special Provisions to minimize erosion and sedimentation. Temporary and permanent erosion control methods may include silt fences, retention basins, detention ponds, interceptor ditches, seeding and sodding, riprap of exposed embankments, erosion mats, and mulching.

Structure sizing will be done in accordance with state and federal guidelines regarding floodplain encroachment and hydraulic capacity. Drainage systems, including ditches on private lands, will be maintained, restored, or reestablished in a manner that will not impound water, unless it is to reestablish farm ponds. Permanent retention facilities will be considered in areas adjacent to streams and wetlands such that roadway runoff will be intercepted before entering the waterway.

4.6.5 Wetlands

Presidential Executive Order 11990, Protection of Wetlands, requires all federal agencies to avoid to the extent practicable, long- and short-term adverse impacts associated with the destruction or modification of wetlands. More specifically, the order directs agencies to avoid new construction in wetlands unless there is no practicable alternative and states that where wetlands cannot be avoided, the proposed action must include all practicable measures to minimize harm to wetlands.

None of the build alternatives entirely avoid wetlands. Measures that will be taken during final design to minimize wetland impacts include the following:

- Water quality impacts from silt and sedimentation will be minimized through the strict adherence to erosion control measures as required by WisDOT's *Specifications for Road and Bridge Construction*.
- Additional measures that will be considered during design include use of steeper embankment slopes or use of retaining structures to reduce impacts to the wetlands.

In areas where wetland loss cannot be avoided, wetland replacement will be pursued by either wetland restoration, wetland creation or debiting an existing wetland Mitigation Bank Site. Wetland mitigation measures will be determined in coordination with the WDNR throughout preparation of the Final EIS and subsequent project design.

4.6.6 Floodplains

Presidential Executive Order 11988 requires federal agencies to avoid the long- and short-term adverse impacts associated with the occupancy and modification of floodplains, and to restore and preserve the natural and beneficial values served by floodplains. In implementing the Executive Order, it is FHWA's policy to:

- Encourage prevention of uneconomic, hazardous or incompatible use and development in the floodplain.
- Avoid longitudinal or other significant encroachments where practicable.
- Minimize impacts that adversely affect base flood plains.
- Restore and preserve the natural and beneficial floodplain values.
- Avoid support of incompatible floodplain development.
- Be consistent with the intent of the Standards and Criteria of the National Flood Insurance Program and local floodplain management.

Central Segment Alternatives C2, C2(a), and C2(b) involve encroachment in the floodplain of the Crawfish River in Jefferson County. Alternatives C2 and C2(a) are expected to raise the base flood elevation of the regional (100-year) flood by a maximum of approximately 0.08 foot (0.02 m). Alternative C2(b) is expected to raise the base flood elevation of the regional (100-year) flood by a maximum of approximately 0.04 foot (0.01 m). The principle mitigation measures are those which reduce the potential for interruption of a transportation facility needed for emergency vehicles of evacuation; reduce potential risk of property loss or hazard to life; and preserve or restore natural and beneficial floodplain values.

The proposed highway will be designed to have adequate freeboard to prevent encroachment of water on the pavement in the regional (100-year) flood event. The improvement will enhance capability for emergency vehicle response.

Jefferson County regulates development in the floodplain, and the applicable local floodplain ordinance is in compliance with Wisconsin Administrative Code NR 116. The purpose of the floodplain regulation is to protect human life, health, and to minimize property damage and economic loss. The proposed improvement is consistent with floodway development standards provided that amendments are made to the official floodway lines, regional flood profile, floodplain zoning maps, and floodplain zoning ordinances and provided that the local unit of government agrees to such changes. WisDOT will complete the required analysis to revise the regulated floodplain in accordance with the criteria in Wisconsin Administrative Code NR 116.11 during final design and prior to construction of the facility. WisDOT will coordinate with the Federal Emergency Management Authority, WDNR, and Jefferson County to obtain permission to revise the regulated floodplain and to complete the required revision.

Economic loss as a result of floodplain impacts on croplands can be mitigated by compensation to riparian property owners for flowage easements. These easements would cover lands which are not currently inundated by the regional flood but which would be within the revised floodplain.

Natural and beneficial floodplain values associated with wetlands will be mitigated. Wetlands are discussed separately above.

4.6.7 Upland Habitat and Wildlife

Minimizing wildlife habitat impacts was considered in development of all alternatives. Attempts were made to avoid wooded and wetland areas. Where wooded areas were not avoidable, fragmenting of woodlands was minimized. Where wetland areas were not avoidable, wildlife habitat will be considered when selecting the wetland mitigation site.

4.6.8 Natural and Conservancy Areas

Once a Preferred Alternative is selected, adjustments of the horizontal alignment and grade during the design phase of the project may be possible to further reduce the area impacted by construction. Two of the natural areas being crossed are not avoidable under all build alternatives. These are the crossings of the designated natural areas along the Rock River and Otter Creek. Consideration will be given to provide a clear span of the river or creek to reduce the impacts associated with constructing a bridge pier in the water.

4.6.9 Archaeological Resources

Once a Preferred Alternative has been selected, Phase I and Phase II archaeological studies will be conducted to determine if potentially impacted sites are eligible for the National Register of Historic Places (NRHP). If a site is found to be eligible for the NRHP, efforts will be made to avoid the site with the Preferred Alternative. If avoidance is found to be not prudent, further coordination will be carried out with the SHPO prior to the Final EIS to develop agreement on an appropriate data recovery plan and any additional mitigation measures. Coordination and consultation with the SHPO is currently ongoing. All Section 106 requirements will be fulfilled prior to the submittal of a Final EIS for this project.

4.6.10 Air Quality

The project area meets national and state air pollution attainment criteria. Therefore, no transportation control measures apply to the project area.

As part of an overall strategy to reduce pollution, the project will utilize energy efficient lighting to the extent feasible. No specific lighting requirements have been identified at this time.

Fugitive dust from the project will be prevented as required by Wisconsin Administrative Code NR 415.04(1). Dust control during construction would be accomplished in accordance with the WisDOT's *Standard Specifications for Road and Bridge Construction* (1989), which requires the application of water or other dust control measures during grading operations and on haul roads to minimize the dispersion of dust. The Standard Specifications also require all vehicles hauling materials to or from the site to use appropriate measures, including covers or protective devices, to prevent dust dispersion.

The location and operation of concrete batch plants and asphaltic batch plants will be in accordance with the Standard Specifications and any Special Provisions developed during coordination with the WDNR regarding air quality standards and emissions.

4.6.11 Noise

4.6.11.1 Traffic Noise

Noise abatement measures considered for this project included:

- Traffic management measures (e.g., reduced speed limits, prohibition of trucks).
- Alteration of horizontal or vertical alignment.
- Construction of noise barriers.

Traffic management measures applied to the proposed facility are not deemed to be reasonable and feasible since this project is intended to improve mobility within the area. Therefore, traffic management abatement measures are not proposed.

The horizontal alignments for the proposed alternatives have been designed to minimize overall impacts, including environmental impacts and impacts to existing development along the corridor. Most of the properties having noise impacts are located along existing STH 26 in the urban areas. Alignment modifications along existing STH 26 are not feasible due to adjacent development. Therefore, alignment modifications in the urban areas for noise abatement purposes are not proposed.

Following selection of a Preferred Alternative and more detailed engineering information, noise impacts in the rural areas will be reevaluated to determine whether mitigation measures can be developed to minimize noise impacts. Design features that will be considered to minimize noise are depressed roadway, earthen berms, or increased distances from the receptor.

Construction of noise barriers was investigated for all noise impacted receptors along the project. In order for noise barriers to be constructed, they must be both feasible and reasonable:

- Feasibility relates to physical and acoustical restraints. Barriers are feasible where terrain, access, safety or other physical constraints do not preclude them, and where they are able to achieve a substantial noise reduction. A reduction of 8 to 10 dBA would be considered substantial.
- Reasonableness of noise barriers depends on a number of factors including the barrier cost per residence benefited. Costs exceeding about \$30,000 per residence benefited would not be considered reasonable.

Most receptors in the rural areas are single, isolated homes or businesses. In all these cases, the cost for constructing effective noise barriers is not reasonable and such construction is not recommended.

4.6.11.2 Construction Noise

To reduce the potential impact of construction noise, the Special Provisions for this project will require that motorized equipment shall be operated in compliance with all applicable local, state, and federal laws and regulations relating to noise levels permissible within and adjacent to the project construction site. As a minimum, the Special Provisions will require that motorized construction equipment shall not be operated between 10:00 p.m. and 6:00 a.m. without the prior written approval of the engineer. All motorized construction equipment will be required to have mufflers constructed in accordance with the equipment manufacturer's specifications or a system of equivalent noise reducing capacity, maintained in good operating condition.

4.6.12 Visual And Aesthetic Resources

Mitigation includes both measures to reduce adverse impacts and to enhance beneficial impacts. The following measures will improve the visual quality of the proposed project:

- A curvilinear alignment fitting the natural terrain reduces the adverse visual impact of the highway on the countryside. This principle has been incorporated into the alternatives to the extent possible,

particularly in visually sensitive areas. Further refinements may include varying median widths and independent roadway profiles to blend with the terrain and take advantage of exceptional views from the highway.

- Landscaping and natural revegetation of disturbed areas reduce the visual intrusion of the highway on the natural landscape. Consideration will be given to use of native flora as an alternative to lawn grasses or in addition to seeding used for erosion control. In specific locations, landscaping may be designed to screen the view of the highway from particularly sensitive viewpoints.
- Modifying rock cuts to provide vegetated terraces and varying setbacks can soften the effects of massive rock cuts, provide visual interest, and preserve the rhythm of the natural landscape.
- Structures may be tinted or textured to be more harmonious with the natural environment. The use of a structure rather than a high fill to cross deep ravines is less visually intrusive.
- Depressing the profile in certain locations can reduce the visibility of the highway. This measure can be very costly in an area of rock excavation, but it could be considered where the highway impacts a particularly sensitive viewscape.

4.6.13 Borrow And Disposal

Selection of any material borrow sites will be the responsibility of the construction contractor subject to approval by WisDOT. It is anticipated that borrow material will be obtained locally from existing sites. Borrow will not be taken from areas of known archaeological sites. Unusable excavated material will be disposed of by the contractor in accordance with the Standard Specifications or Special Provisions to ensure protection of wetlands and waterways.

Consideration will be given during the design phase to the use of clean construction/demolition debris and/or recycled rubber tire materials to the extent feasible in project implementation.

All waste and demolition material from project construction activities which cannot be reused in the project will be disposed of in accordance with the Standard Specifications or Special Provisions, and the WisDOT/WDNR *One-Time Disposal Guidelines* to ensure protection of wetlands and waterways.

4.6.14 Enhancements

The Federal Highway Administration (FHWA) encourages the consideration of enhancement features on this project. Such enhancements are not mitigation measures related to adverse environmental impacts. Rather, these are additional measures intended to enhance modes beyond the highway and the car.

Federal funds for enhancements were made available through the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991. WisDOT has established the Statewide Multi-modal Improvement Program to fund enhancement projects and supports the incorporation of enhancements on this project.

WisDOT will investigate the potential for landscaping enhancements. In particular, projects to re-establish native plant communities or to incorporate native flora in roadside seeding will be considered. No specific landscaping projects or other specific enhancement projects have been identified at this time.